



AMBLER TEES, A.M., D.D.S.

ITEMS OF INTEREST.

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Thoughts from the Profession.

LABORATORY HINTS.

THE LABORATORY.—I often notice, when calling on a brother dentist for the first time, that he always closes his laboratory door. Why does he do it? Because he is ashamed of its appearance and odor? The room used for the laboratory is generally a little tucked-up hole, without proper light, ventilation or any other advantages; and to make things worse, the floor is covered with dirt, the bench with tools; in the middle of the room stands an old spittoon, half full of cigar-stubs, tobacco-juice, etc., and in one corner of the room is an old slop-bucket, half full of blood and dirty water, the accumulated filth from the wash-bowl and chair-spittoon. I know this is painting it pretty black, but every dentist who has visited much among his brothers has seen such rooms. We blame no man for disliking laboratory work under such conditions.

The laboratory should be of good size, well lighted, and ventilated; fronting the street, if possible, instead of some dark alley, as usual. Arrange the lathe, work-table, plaster bench, drawers, etc., so they will be convenient and command the light. Arrange all tools in racks along the back side of the tables, where you can reach them without getting up from your stool. Have a place for everything, and keep everything in its place; so that, if necessary, you could step into the room and place your hand on any tool if blindfolded. Keep the room clean, tidy, and well ventilated. You will then work easier, live longer, and be happier.

METAL CASTS FOR VULCANITE AND CELLULOID.—Every dentist who has worked these materials for years on plaster-casts knows their many faults. While I have no trouble in getting smooth plates, the plaster-cast often checks in closing the flask, causing

misfits. Plaster, by its porosities, absorbs much moisture while being vulcanized, and thus changes the shape of the cast. I noticed, in a recent article by Dr. F. A. Green, he agrees with me that "many misfits are caused by expansion of the plaster model;" but "mixing marble-dust with the plaster" weakens the plaster-cast, and is but little gain in overcoming the expansion.

I find the only remedy for the difficulty is to use a thin, hollow metal cast, of block tin. To make these casts, it is necessary to have two impressions; the first taken with wax; oil, and pour with Teague's Impression Compound. Next take an impression of the mouth with Teague's Compound; mix it quite thin, and be careful to get a perfect impression. The cup used for taking the second impression should have the bottom perforated all over, the holes being about one-eighth inch in diameter; also, a row of holes the same size, extending entirely around the rim, and about one-fourth inch from the top. Before filling the cup, cut a piece of cheese cloth to fit it; wet the cloth, and place it in the bottom of the cup. Should you wish an air chamber in the plate, examine the mouth carefully, and find where the suction will do the most good; then, with a pencil, outline it on the impression taken last; with the engine and a No. 5 round bur follow around the outline and pit, making the pits one-sixteenth inch apart; complete the vacuum by going over and pitting the whole enclosed surface. Good adhesion can be got for lower plates by beginning on the impression, about one-fourth inch from where the heel of the finished plate will reach, and run a line of pits entirely around the impression, in its deepest parts, to within one-fourth inch of the opposite heel; use a small bur, then, for the upper impression. The model obtained from the wax impression is to be used as a core for the metal cast. When sufficiently hard, separate the core from the impression, trim as desired, cut one shallow groove on each side, midway between the centre of the arch and the alveolar ridge; these grooves are to be used as pouring-gates. Place the core in the impression, letting it rest on the pin-heads, and fasten with soft binding wire (such as is used by jewelers); dry the impression and core over a stove till *perfectly dry*. Melt pure block tin and pour it slowly into the mold while still hot; when cool remove from the impression, and with cutting-pliers cut off the pins close to the cast. This gives a smooth cast that is unchangeable under all conditions, never breaks, and the hollow cast is the same thickness in all parts. It can be easily separated from the vulcanized plate, by knocking out the core and pinching the two sides together.

William H. Steele, D. D. S., Forest City, Ia.

NOTES ON PHYTOLACCA DECANDRA, OR POKE ROOT.

Since writing on this remedy for the April ITEMS, the following, from the pen of Prof. J. M. Thurston, M.D., of Indiana, has been handed me :

I have prescribed the above tincture in ten-drop doses every half hour for a patient suffering severely from toothache. The tooth was aching from pulp exposure, and there was much tenderness. I prescribed this remedy, the difficulty being purely a local irritation of a periphery of the trifacial nerve, a nerve inflammation, consequently this was an opportunity to test its action on the great sensitive nerve of the head and face. The pain began to abate after the third dose, and after the seventh the patient was free from pain, slept well that night and had no return of the trouble. I have continued its use in the same class of cases till at present writing (1878). It has thus been tested with uniform success in fifteen cases. I have found it not only cures toothache, but will prevent alveolar abscess in every case where pus has not already formed. From this evidence of its action on the trigeminus nerve, I reasoned that it would certainly be applicable in earache and so far have used it in two cases with perfect success; also, have reason to believe that in one of the above cases it prevented an abscess of the internal ear. In a neuralgia of the stomach, where the sensitive peripheries of the vagus nerve are irritated, it has never failed to do all that could be desired of such a remedy. Thus it seems that *the* influence of this agent is spent mainly on the *sensitive cranial nerves*. The *modus operandi* of this agent is in *no manner akin to narcotic*. Its power to relieve pain resides in its *ALTERATIVE* influence, thus altering the conditions of nerve tissue.

Now, so far as I have been able to observe, I quite agree with Dr. Thurston in classifying this remedy as an alterative rather than a narcotic. In no case have I noticed narcotic effects. Perhaps if I had given it in larger doses something of this kind would have been discovered; but as fifteen drops hourly is the largest dose I ever prescribed, the result has shown more of the alterative than the narcotic effect. I prescribed it for one patient, for whom I had adjusted a Richmond crown. She caught a severe cold immediately after the operation, and was confined to her bed; periodical inflammation was the result. This proved a very bad case indeed. The lady was of a highly nervous organization, and was nearly fifty years of age. Three days after the operation she sent for me. I found her suffering very much. I prescribed phytolacca in fifteen-drop doses every hour. Her husband sat up all night to administer it. I did not intend this self sacrifice on his part, but believing it was necessary to give the remedy till pain had subsided, he had been equal to the emergency. When I called the next day she complained of being sick at the stomach, and could not retain nourishment. But the pain was gone, and there had not been the

slightest signs of a narcotic effect. When she recovered from her cold there was no further trouble from the crowned root.

Some time ago I prescribed phytolacca in a case quite different. I had capped a nerve that had been nearly exposed. A large gold filling was then put in, and the patient left the office quite comfortable; but in a few days she returned to complain of severe intermittent pains in the tooth. I prescribed ten-drop doses hourly; requesting her to return and let me know the result. She did so after several days. The pain had gone, and I had every reason to believe that the nerve was still alive and healthy. She said the pain had left her within a few hours after having taken the first dose. In cases where the pulp had died under a filling, the very nature of the trouble proves that phytolacca would be useless; also in cases where pus has already formed, as the action of the drug is on the nerve proper, and while it prevents inflammation reaching the point of suppuration, it will not counteract the trouble after pus accumulated. A case is also on record where a tumor of the mammary gland was cured by this drug, administered both internally and externally.

Malcolm W. Sparrows, D.D.S., Toronto, Canada.

BRIDGE-WORK.

(Transactions Kansas Dental Society.)

Dr. Shriver: For my bands I use coin gold alloyed with platina.

Dr. Thompson: What kind of coin?

Dr. Shriver: Red coin preferably, with about two grains of platina to the ounce; and for the cutting or grinding surface of the tooth, I alloy all I can to make it hard enough that it will not wear. I flow that up with coin gold, so I don't have anything except platina and coin gold in the work till I come to solder it the last time, when I use one-hundred-carat solder. I do not use any solder on the bands till I come to put the work together; and when I am ready to make my last solder I use twenty-carat solder. I try to fill all the joints, so that there will be no crevices or anything of that kind. The idea of using platina with gold makes it very safe in working. There is little danger of melting. You can put it under a blow-pipe as though you were going to shoe a horse. I have had no trouble in melting.

Dr. Hungerford: I do some bridge-work. I get my individual pieces just where I want them, with the caps set in position, and the whole thing introduced, and catch everything in all directions;

and with large pieces of solder I fill all up full and flush, so that there are no cracks or crevices. It only makes one soldering and is less trouble. I never could see the use of fixing up each tooth. I have one criticism that I think is important, and that is the adjustment of the bands to the gum margin. If they only come up to the gum margin there will be a collection of food there. I have never seen a case where the band did not go under the free margin but that the teeth began to get very sensitive about that point, and eventually decayed; but by putting the band slightly under the free margin, that is at once avoided. It is a very nice operation to adjust the band so that it will exactly fit under the margin the same on each side, anterior and posterior. I certainly would not adjust a band just to the margin.

You sometimes see notices from professional men that they will construct bridge-work for their patients from plaster-casts. I do not think it possible that a bridge was ever constructed from a plaster-cast that was a fit. The plaster-cast does not show the cervical margin of the tooth well. These bands must go under the free margin, and I think it is not possible a bridge could be constructed from a plaster-cast. I do not see the object of making molded cusps. It is three or four times as much labor as it is to make a swedged cusp from a thin, nice piece of twenty-two-carat gold; you can swedge out a great many in a short time, and with your blow-pipe or gas jet fill with solder, and you can leave them slightly concave. If you have a molded cusp, it must be ground or it don't fit at the top of the tooth. You don't get a good adjustment unless you grind it away considerably. It is a difficult thing, and I don't see any special advantage that can possibly be derived from it. I have never seen many bridges, except those I have constructed myself with the gold cusps that covered each individual tooth, and soldered together.

Dr. Morrison: I have made some crowns in my day, and also bridges. In the construction of crowns, I am sorry to see so many ways of doing the thing that are not the shortest and the best. In a few words I will attempt to tell you my method, and it is original. It is to construct the band to fit the cervical margin of the tooth accurately, leaving it long enough to come to the occluding tooth perfectly. I take an impression for all crowns or sections at the same time in plaster Paris, and fill that in and make a plaster model. After I have fitted the band to the model, I fit it in the mouth accurately, closing it in at the cervical margin. Then I take some coin gold, if you are making them all coin (I prefer them about twenty-three carat, which is one carat below pure gold), and

I make a thin impression with a metallic gray iron die. I will just describe the method of getting crown faces. Take these teeth from your matrix and apply them to the wax, and make a needle about an inch and a half long; stick them in it, and send them to any iron foundry and they will make any number of bicuspsids, molars and canines, and charge you forty to sixty cents a pound. These teeth come to you just perfect models, and they are more perfect and delicate than any you can produce at random by a zinc die. Finish them up a little with a file to correspond with each case you want, and you will find they can be used over a great many times. You stamp your crown, fit it, and then allow it to come to the free margin of the gum, and stick it into place with a little solder. I am surprised at the excess of solder some dentists use. I use solder not to exceed in size half of an ordinary pin-head in the construction of an ordinary crown. After your crown has been stamped and fitted on correctly to the natural tooth, and it is soldered around the edge with a high order of solder (the highest possible should be used for such gold), then you put it on your plaster model and articulate, and if you have a patient in the chair you can use it, and have the natural teeth for the articulation. There is where you get complete articulation without grinding.

When it is adjusted to a complete fit in the mouth, you take it off. I use platina as mentioned by Dr. Schriver; that is, platina with so much gold that it is very hard, but it is difficult to roll it; it rolls almost like steel in the rolling-mills. I cut that up into small squares, of about a sixteenth of an inch, and about twenty-three or twenty-four gauge plate thickness, and make a regular McAdam plate of it, and keep it in a compartment by itself in the solder drawer. Instead of making different thicknesses on the occluding faces, I make these faces as near the thickness of an ordinary nickel as possible, leaving that edge gold where the occluding teeth are to come against and wear. I use to make them of one thickness—say about a dime in thickness—but I make them much thicker now, and as years go by I increase the thickness, because I see the necessity of it. Now, I put two crowns in position and take a plaster impression of their articulation. These crowns have been fitted one at a time till they occlude perfectly, and I put them in position, and their cervical fit and adjustment hold them. It is difficult to get them off. Of course, you cannot use a pair of forceps without crushing them, but you can slip them off.

I construct the bridge with a gold or iron angle as a support for the bridge. I take thick platina, about twenty-four gauge plate, or, rather, take two strips and solder the edges together.

I solder the two crowns and adjust the iron angle, cover this with rubber, and vulcanize.

Question—You rest the rubber tight to the gum?

Answer—Yes.

Question—How much surface is in contact with the gum?

Answer—Quarter of an inch many times, and it is left there permanently. With regard to unpleasant results, I have never observed any.

Dr. Hungerford: It seems to me the bar would bend out of shape.

Dr. Morrison: Yes; but remember the bar is entirely enveloped in the rubber.

Dr. Hungerford: Yes, but what I mean is, unless these bars are excessively heavy their position would be changed; in trying them on you will have to bend them.

Dr. Morrison: I said the bars were from twenty-two to twenty-four gauge, and I first solder one edge to the other, and the ends of them are accurately adjusted to the crowns before the heat is applied.

Dr. Hungerford: One is placed perpendicularly, and the other laterally?

Dr. Morrison: Yes; just like angle irons in a building.

OBTUNDING SENSITIVE DENTINE.

More than two years ago it occurred to me that by introducing the vapor of oil of cloves into a tooth-cavity I could obtund the sensitiveness of the dentine. A patient with sensitive teeth gave an opportunity for the following experiment. I opened the valve in my hot-air syringe, introduced some oil of cloves, and by placing the syringe over an annealing lamp vaporized the oil. I then blew the vapor into the cavity that was being prepared for filling. The result was both gratifying and satisfactory, with the exception that the cavity was oiled. I removed the oil with a little alcohol. An apparatus by which any desired medicament could be vaporized and thrown into a cavity at a desired temperature, without condensation on the surface, became at once a desideratum. In the experiments which followed, such remarkable successes resulted that we made a thorough study of the principles involved. In nearly all recent discussions and suggestions relating to the obtunding of sensitive dentine, the two principles of refrigeration and hydration have been mainly considered. Both of these include

a degree of the element of applied force, and both include the idea of taking something out of the tooth—heat in one case, by rapidly lowering the temperature through the application of a volatile agent; the other, the removal of moisture.

Radically different is the proposed method of forcing something into the tooth-structure, as by the introduction of highly rarefied obtunding or anestizing vapors. Absorption of these vapors takes place, producing a local anesthesia.

Any medicament placed in a tooth, for any purpose, is put there in expectation of its absorption; for if no absorption takes place, dry cotton would be of as much value as if saturated with a medicament, except the agent be a coagulant or an escharotic acting by sealing the tubuli. The obtunded condition of dentine is usually brought about by depriving the parts either of warmth or moisture, or of both, by the methods referred to. This condition differs widely from this method of inducing absorption. The abstraction of heat is absolutely avoided, and a partial abstraction of moisture is only effected as a preliminary step to make room for the medicament. As clinical experience shows an obtunding of the dentine to some depth, it is a reasonable conclusion that the substance of the dentine has been mechanically charged with the agent employed by the vaporized condition of the medicaments, supplemented by the force used in throwing it into the cavity. The vapors thrown into the cavity under treatment should be as nearly at the temperature of the tooth as possible, as no pain is caused by the introduction at this temperature, even though the tooth be exceedingly sensitive to heat and cold. This is an important point.

EFFECT ON TOOTH-STRUCTURES.—Many dentists have adopted the plan of introducing medicated oxyphosphate in deep-seated cavities. What occurs in the use of the vapors covers the principle involved in such applications—the peripheral tubuli and contents become thoroughly embalmed. In two years' experience no bad effects from the use of vapors have been observed. An incidental advantage is that by throwing in the vapors during the operation, the tooth, the mouth where the dam is not applied, and the instruments are all placed and kept in a thoroughly antiseptic condition.

COLLATERAL USES.—In all cases of inflamed and aching pulps, the vapor of chloroform gives immediate relief. After the extracting of a tooth having an abscess, the same vapor blown into the socket gives immediate and permanent relief.

In cases where it is difficult to place an application for devitalizing the pulp, dilute a little carbolic acid with oil of cloves or campho-phénique, and with a pledget of cotton take up the slightest

trace of arsenic, touch the exposed point, and blow on it chloroform vapor for a few seconds, which produces prompt absorption of the devitalizing agent and quiets the tooth if aching. In removing calculus, when the gums have receded and the necks of the teeth are sensitive, the chloroform vapor so employed will in a few seconds sufficiently obtund the sensitiveness. The vapor of oil of cloves or of campho-phénique will also satisfactorily obtund in such cases. The same vapors are efficient in cases where it is necessary to grind teeth down to improve the articulation, or for cap-crowns in bridge-work. Medicated vapors are useful in drying out root-canals, and in placing them, together with the tubuli, in a thoroughly antiseptic condition. Other advantages will be so obvious to the intelligent practitioner that further details is unnecessary.

It is believed that therapeutic agents, introduced as described, will save more pulps than by the methods commonly practiced.

—*Samuel A. Milton, D.D.S., Clinton, Mo., in Cosmos.*

SETTING PORCELAIN AND OTHER CROWNS.

The Bonwill crowns are sufficient to meet the requirements in a large majority of cases, and their construction and method of attachment have been frequently explained by Dr. Bonwill. There are some additional points, however, which, I think, may well be considered. After the root is prepared, to prevent splitting it, a small groove should be cut around the canal, between it and the cement, which, when the pin is adjusted, the root filled, and the crown pressed to place, will solidly fill with amalgam and support the root on all sides.

It is a root in the anterior of the mouth, the exhibition of a discolored joint may be prevented by placing a small quantity of light-colored gutta-percha, softened by heat, around the edge of the concavity of the crown, and at once adjusting the crown. A tight joint will thus be made, which will prevent the showing of the amalgam externally. Any excess of gutta-percha which may have been forced out should be trimmed off flush with the root and crown.

If a case presents where decay has progressed to such an extent as to leave only a funnel-shaped cavity, and but little substance for retaining the pin near the apex, a thin platina band should be placed around the root, with a strip from it, to be turned and bur-nished into the cavity, to prevent the band from slipping beyond the edge of the gum. Then close the foramen, select a small probe—a Gates canal-drill with bur broken off answers well—and insert

it in the root and pack amalgam around it; using either the Bonwill or the electric mallet to work the mercury well to the surface, removing the mercury with a piece of bibulous paper, and so manipulating the amalgam as to have it hard by the time the filling is completed. Then withdraw the probe; this leaves a canal that answers well as a guide in drilling. You now have a root almost as good as if it had not been injured by decay, and the operation can be continued after the usual method.

When the root is perforated in one or more places, I use a piece of platina foil, cut into a shape that may be adapted to the walls of the canal, as a lining. For success in the use of these crowns, it is important that an amalgam of great strength be used; for, with inferior amalgam, the permanent building up of badly disintegrated roots is impossible. Low grades of amalgam are also subject to discoloration, which may be apparent through the porcelain.

Experience has satisfied me that the attachment of these crowns to roots with amalgam, and a pin whose surface will amalgamate, is the strongest method that can be used; and so great is my faith in it, that I take advantage of the mechanical principle in building contour fillings of amalgam in bicuspid and molars.

Sometimes the articulation will not allow a porcelain crown of sufficient strength to be used. The lower and upper laterals frequently have roots so small as to prohibit the adoption of this method. For the roots of such teeth I prefer a platina and iridium pin for the canal. A gold collar is made to fit around the root and beveled on the labial surface beyond the free margin of the gum. A gold plate soldered on the beveled surface of the collar makes a cap for the end of the root. Adjust the cap on the root, select a suitable plain plate tooth and back it with gold, fitting it on the cap and attaching it with rosin and wax. Remove the tooth and cap; invest and unite with solder. After polishing the piece, attach it to the root with oxyphosphate.

For the roots of bicuspid and molars, a permanent crown can be adjusted by making a cylinder of gold to fit the root, and allowing a filling of amalgam to extend from within the root through the cylinder, using a composition pin to strengthen the attachment.

Gold crowns can be adjusted in the same manner, and a beautiful operation can be made, the amalgam being entirely hidden. A crown of this description is made by taking a ribbon of coin gold, number twenty-eight American gauge, and forming it into a cylinder-shape at one end to fit closely the root. An articulating face is made by taking a piece of gold plate, wider than the diameter of the cyl-

inder, and placing on it small, square pieces of gold, making pyramids according to the number of cusps required. The plate is held in the flame of a blow-pipe, to solder the pieces together and to the plate, using an eighteen-carat solder. Now flow a solder of a lower carat on the opposite side of the plate, place the cylinder on it, and again hold in the flame till the solder reflows. The excess of gold is cut off, the cusps filed to their proper shape, the crown polished and filled with a plastic.

After the plastic has become hard, concave the base, drill the number of holes needed through the crown to its articulating face, and countersink the holes. The crown is now ready to be attached to the root. If, when adjusting the crown, any difficulty is experienced on account of the pins not adapting themselves, the holes can be made larger with a bur. After the crown is adjusted, the amalgam on the articulating face can be cut away and gold filled in its place, making, to appearance, an all-gold crown.

If a root be even with the gum, the gold can be made to encircle it. This is done in a very accurate and quick manner, by placing a soft steel wire, No. 27, around the root, and twisting the ends together till tight; then, burnishing the wire into the irregularities of the surface of the root, removing it and placing it on a block of soft but tough wood, and striking it with a flat hammer. You now have the exact counterpart of that portion of the root you wish to place the gold around. Gold crowns made and adjusted in this manner require about two hours' time, and necessitate but one appointment with the patient.

—Dr. S. B. Luckie, *Odontological So., Pa.*, reported in *Ohio Journal of Dental Science*.

"ENAMEL" IN DENTISTRY.

In a paper designed principally to explain a method of making porcelain front crowns, read at the last meeting of the American Dental Association, I mentioned the use of the possibilities of "enamel" in prosthetic dentistry. Not *tooth* enamel, or *gum* enamel, but a material that is known and used by jewelers and enamellers under the name of "hard enamel;" an easy fusible silicate or glass, to which the desired color and opacity is imparted by metallic oxides.

Enamels have been used in decorative art from very early times, more particularly in the manufacture of jewelry. For years it has formed the base of nearly all watch and clock dials, and now that methods have become perfected by which it can be attached

to iron, it is extensively used in the manufacture of water-pipes, porcelain-lined kettles, and a variety of utensils known as "granite-ware," where its strength, resistance and durability have withstood the severest tests.

Though having in mind for some time its probable usefulness for filling interspaces, and more firmly uniting porcelain to metal in crown and metal-plate work, I had not subjected it to a practical examination till now, principally in the construction of the models. I have fused the enamel on eighteen-carat gold, on porcelain teeth, between backing and tooth, and all joints of porcelain and metal, and in the construction of six crowns, two partial bridges (one of eight teeth) and a partial set of teeth on gold. I am pleased with its practical application and the desirable possibilities it fore-shadows. I believe the prediction not a wild one, when I say it is destined to revolutionize the present method of attaching porcelain teeth to metal in all artificial dentures.

While its staying quality has not yet been subjected to the crucial test of time, the very nature of the substance—glass—tells us it can no more be attached by the fluids of the mouth than the porcelain of artificial teeth; and where it is fused between and protected by otherwise immovable joints, it can but stand as an impervious stopping to the ingress of decomposable substances which have rendered this class of dentures unwholesome and oftentimes filthy in the mouth.

The vitrified enamel clings with great tenacity to both metal and porcelain, and the artificial tooth or face is supported by a far stronger attachment than when held—as it often otherwise must be—by the pins alone. When fused between joints of gum plate teeth, filling the interstices between the plate and the tooth, uniting the whole as in continuous gum dentures, and wherever porcelain has heretofore been held mechanically against metallic surfaces, greater solidity and perfection in all operations of this class must necessarily result.

The enamel may be obtained at our dental depots, under the name of "white-hard enamel." It must be an impalpable powder, so that when mixed with water to the consistency of cream, and laid over a crevice with a camel's-hair pencil, it will penetrate into the smallest interstices by lightly tapping the piece. This operation should be continued, occasionally drying the excess of moisture, till the interspaces are entirely filled with the dry condensed powder.

The teeth may now be invested and the piece brought to the required heat for fusing the enamel under the blow-pipe. As the heat requisite for this purpose is far below the fusing point of any

of the hard solders, there will be no danger of melting the metal. A more satisfactory and uniform result, however, can be obtained—without investment—in a continuous-gum furnace. For this purpose I can most heartily recommend “The Parker Improved Gas Furnace.”

Where the enamel is out of sight, a small quantity should be laid on an extra piece of metal alongside, for a guide as to its fusion; the heat being stopped as soon as the surface of the sample is glassed. Where an unusual quantity has been used to fill wide interspaces, the contraction of the material will often necessitate a second filling and fusing.

For crowns, I fit platina backing a trifle large for the face, bend the pins to hold it, and lute with enamel; the extended edges of the backing form a convenient place on which to lay the material while tapping it to place. Other joints between porcelain and metal may be luted before or after completion of the crown.

Recently I made a partial denture. The patient had lost the second superior bicuspids and molars with considerable absorption of tissue. Under ordinary circumstances, this would have been artificially restored with plain teeth and pink rubber gum attachment. In this case, however, gum plate teeth were selected, backed, fitted and soldered to plate, with a neatly fitted rim along the buccal edges of gums. Then the piece was boiled for some time in dilute acid to remove every trace of borax, then in a strong alkali and thoroughly cleansed. (The alkali cleansing process, by the way, is considered by metal enamelers quite indispensable to the perfect attachment of the enamel.) All of the joints were then tapped full of the moistened enamel powder and the plate, resting on a plaster and asbestos vase, was slowly brought to the required heat for fusing; one firing was sufficient, every joint being filled perfectly with the hard vitrified enamel. The denture when finished possessed every indication of being durable, and as free from the possibility of decomposing materials finding lodgment, as if constructed by the continuous gum process.

If this proves true, the kind of gold work which was so durable and beautiful—though long discarded, may again be restored to its pristine glory.

—Dr. Calvin S. Case, in *Archives*.

[Why would not this be admirable for enamel fronts for aluminum plates, and of which to make enamel pieces for filling front teeth?—EDITOR ITEMS.]

A dentist does not alway have fair sailing. Sometimes he runs against a snag.

Queries and Answers.

(From *Dental Mirror*.)

Query : Suppose a tooth has ached slightly, and while excavating with the dam in position, the pulp is found slightly exposed so that it bleeds a little, but appears healthy—(1) Would you cap? if so, with what? (2) Would you fill over such a cap? if so, how soon after? (3) Have you ever capped such an exposure, filled the tooth, and subsequently removed filling and capping, finding the pulp still living? (4) In your experience, what percentage of success have you had in capping healthy exposed pulps, and on what do you base your estimate? (5) Does the youth or age of patient interfere? Note that this query refers to healthy pulps. If the evidence is against success in such cases, it would be folly to attempt capping diseased pulps.

[Some answer that they fail; we give the methods of those who are fairly successful—ED. ITEMS.]

(1) Yes; usually with oxyphosphate after first applying a coating of oxid of zinc. (2) Fill immediately if there were no inflammation. (3) No; I have, however, examined many even several years after so treating, and have found them sensitive to thermal change and of unchanged color. (4) Have no definite data on which to base an estimate; I am sure, however, that but a small percentage fail. (5) I think youth adds to chances of success.

Alfred S. Hill, Boston, Mass.

(1) Yes; with some non-conducting and non-irritating material. (2) Over my cap I prefer to fill with a cement for awhile—say a few months. (3) Yes. (4) Cannot guess near enough to allow it to go on record. (5) Yes.

A. H. Gilson, Boston, Mass.

(1) The age and physical condition of the patient are considerations. Generally speaking, if the patient is past middle age I destroy the pulp. If the cavity was difficult of access and the point of exposure quite out of the range of direct vision, I hardly consider it a hopeful case for capping. Within these limits I cap, and generally succeed. I use oxyphosphate mixed quite soft, but circumstances alter cases; and a delicate hand and careful manipulation in a general way are stronger factors for success than the kind of material used. The essentials are to avoid pressure on the pulp and use nothing escharotic. (2) I fill over the capping after any reasonable interval—say of a few days; I am guided in the choice of a material the same as if it were a simple cavity. (3) I have found the pulp living in several such cases.

Chas. F. Allen, Newburgh, N. Y.

(1) Yes; with sandarac varnish. (2) Yes; with oxyphosphate as soon as the varnish is dry. (3) Yes; and the opening was closed. (4) This is an impossible question for a novice to answer with any degree of accuracy. (5) Have had no experience with those under eighteen or over thirty years of age.

J. M. Ovenshire, New York.

(1) I cap in every such case. As soon as the bleeding ceases I fill the cavity with a plug of cotton, filled with an aqueous solution of hydronaphthol 1 to 300, for the purpose of effecting disinfection. This is allowed to remain

for a few moments, while the capping materials are being made ready. The cavity is then carefully dried, the least compression being avoided. The point of exposure should then be touched with carbolic acid—90 per cent carbolic acid and 10 per cent alcohol. The cap I prefer to be of platina, of a size to cover well beyond the area of exposure. These caps are punched out of platina plate No. 30; pounding gives the concavity of form. The selected cap is filled to convexity with a paste composed of oxid of zinc, mixed with equal parts of carbolic acid and oil of cloves, to a consistency which will allow it to maintain the convexity, and yet it must be so yielding that it will flow out on the sides of the cap as it is put in place, without making pressure on the pulp. In placing the cap over the pulp it should be laid to catch first at one edge and then carefully laid down, when some of the parts should flow out laterally. The assurance should be had that the cap is against the dentine. It would be well to state that in excavating the cavity all carious matter must be removed; and this should be done without wounding the pulp. (2) My practice is to fill the cavity in such a case at once, as the longer it remains open the greater is the danger of infection and of consequent inflation. My fillings are usually non-conductive, or are made so. (3) My experience on pulp capping has been very extensive, and for many years. I have very frequently performed the described operation and have opened the cases at periods of from two years to fifteen years, finding the pulp living and in healthy condition. (4) It is out of my power to give you percentage of success in capping healthy pulps. I have not kept that careful tabulation of cases which would enable me to give ratios of success. In simple cases, like the kind in question, the conditions of general health being favorable, and there not having been previous pain, I would naturally expect successful results. I am, from my experience in this class of cases, forced to state that no condition would induce me to devitalize at the outset. (5) In reference to this query, neither youth nor age appears to qualify the result. The interfering conditions are those of low systemic tone, and generally, the lymphatic temperament is unfavorable. There is also stability in persons of this temperament to changes of pulp tissue which have been slowly going on during the period of exposure, this class of persons suffering less from acute pain than others; and on the other hand being less responsive to treatment. Finally, it should be stated that in all cases of attempted conventional treatment of the pulp, careful observation must be made of the previous history of the case, to learn whether it may not have been the origin of subjective disturbances.

Louis Jack, Philadelphia.

(1) I cap with asbestos slightly moistened with Robinson's remedy. (2) I fill immediately. (3) Have frequently capped such exposure and have found the pulp living, and sometimes have found it dead. Success is more likely with the young and healthy. *C. S. Stockton, Newark, N. J.*

(1) I depend on temperament, condition, etc., of patient. I cap with the foil dipped in oil of cloves, flowing over the cap chloro-percha, and flowing over that a cap of oxyphosphate, and then fill after latter is hard, having previously removed all foreign substances, and cut clean to healthy bone, washing cavity with warm water or listerine and wiping cavity with cotton dipped in a mixture of twenty grains of iodoform, to one ounce of

oil of eucalyptol. As a rule, immediately. (3) Never been obliged to remove filling under this treatment, used for one year. (4) Study of temperament, careful diagnosis, antiseptic treatment and regimen. (5) Prefer youth.

Albert Westlake, Elizabeth, N. J.

(1) Yes; with carbolized vaseline and one of Dr. Teague's concave caps. (2) Yes; immediately. (4) About 75 per cent. (5) Extreme youth or age will lower the percentage.

H. E. Van Horne, New York.

(1) I do not cap if tooth has ached; tried it a few times but lamentably failed to make it a success. If the tooth had not ached would remove all decomposed matter, gently and carefully cleanse cavity, touch lightly with spirits of camphor, dry carefully and flow solution of gutta-percha in chloroform. After waiting until chloroform had evaporated sufficiently for gutta-percha to harden, would flow thin solution of oxyphosphate in a few minutes, followed by entire filling of oxyphosphate. I carefully inspect gums for a reasonable time, using counter-irritant treatment—aconite and iodine preferable. (2) Do not fill tooth permanently for a year or so. (3) Yes. (4 and 5) Have rarely failed where patient was under thirty years of age.

L. A. Brown, Leesburg, Va.

(1) I would cap every time, using asbestos felt touched with nervine vita or carbolized rosin. (2) Yes; at the same sitting. (3) Have capped and filled several; never had occasion to remove filling. If they had to be removed some other dentist has done it. (5) My experience has only been with patients from eighteen to forty-five, and in the best of health. Perhaps our Canadian climate, with its healthy bracing air may have something to do with success.

D. V. Beacock, Brockville, Canada.

(1) Yes; cover first with dissolved gutta-percha, then flow oxyphosphate mixed very thin over it. (2) Yes; have done so immediately many times. How soon after, depends on vigor and health of patient; prefer waiting a few days usually—sometimes weeks. Many times have covered with gold or amalgam immediately, but prefer not to. (3) Yes; have capped the same nerve as many as three times, and have met with success; have removed caps that my preceptor, Dr. Taylor, put in years ago (same manner) and have found pulp healthy and covered with bone, and have malleted gold down over it. (4) Healthy pulps 100 per cent; if ever I lost one I do not know it. My preceptor will say the same thing, as he has been here and seen the results for thirty years. Was one of the first to advocate capping pulps in this section. (5) Yes; age makes a difference.

R. E. Morrison, Owensboro, Ky.

(1) Cap the pulp if the history of the case indicates; that is, if the pain has been only slight and was not due to any inflammation that would cause the slightest congestion. I cap with, first, a paste composed of oxyphosphate and iodine, covered with any suitable substance to prevent pressure; and then covered with any good oxyphosphate. (2) I fill over such cap, as soon as cement was hard enough to bear the filling. (3) I have capped a number of such exposures, but never removed the filling and capping for the purpose of seeing condition in pulp. (4) I should say that about 80 per cent were successes. I can only base this estimate on those I have heard from. (5) I should say the younger the patient the better the chance for success.

F. H. Lee, Auburn, N. Y.

(1) I arrest the hemorrhage with a strong solution of tannin in alcohol, then touch exposure with wood creosote; cap with thin asbestos felt, having side placed in contact with pulp, covered with a mixture of iodol, oxyphosphate, and vaseline. (2) If systemic conditions are favorable, I fill at same sitting. In deep cavities fill over cap with cement one-half or one-third of cavity, and finish with gold. (3) Have had few failures; have not removed any that I have finished with gold, they having been for young patients. Owing to my extreme care in selecting, they were not doubtful cases. If I have any doubt I give the patient the benefit of it (and myself also) and fill over, capping with phosphate, having a variety of results. After such treatment, if the tooth remains in a comfortable condition for three or four weeks, have frequently removed the temporary fillings, in young persons, found them alive, and have filled them permanently. Pursuing this plan of treatment, or any other, with patients of thirty years of age and upward, have more often found the pulp defunct than otherwise. (4) Don't know what per cent, but have sufficient success to justify continuing efforts in this direction. (5) The age of patient has much to do with success or failure; after the patient has reached the age of twenty-five or thirty years, the pulp diminishes in size so slowly that we cannot expect aid from the increased thickness of the dentine. *J. G. Templeton, Pittsburg, Pa.*

(1) If the pain was slight, of short duration, and exposure small, yes. After the bleeding has ceased, dry out and cover the exposure with a film of collodion or thin chlora-percha; place over this, so as to cover floor of the cavity, a single thickness of No. 6 or 8 tin-foil, and spread over it a thin coating of oxyphosphate. (2) Yes; after this has hardened, if no pain is present from the operation, fill the cavity with oxyphosphate, and at a future sitting, some weeks afterward, remove sufficient of the cement to obtain secure anchorage for whatever metallic filling is most desirable in the case. (3) Yes; often. (4) Cannot give exact percentage, but success is sufficient to warrant the trial every time where the exposure is small. This is based on experience in such cases seen from year to year, as afforded by a practice of seventeen years in my present location. Failures, I class as immediate—those occurring before the final filling; ultimate—those occurring within a year or two afterward; but not failures in cases where the tooth remains comfortable and useful for a year or more, when pulpitis supervenes, and the filling must be removed, and the pulp destroyed. (5) Not so much, in my opinion, as constitutional weakness or recent illness, from which the patient has not fully recovered. *W. T. Martin, Yazoo City, Miss.*

If the patient be free from malaria and its influences, general health good, and a person of vitality and resistance, I do not hesitate to cap. I use oxyphosphate mixed into a paste with glycerine and carbolic acid, equal parts, placed in a lead cap, made by pressing a round end burnisher of size desired in sheet of lead, and trimming with scissors, so that it will rest on the sides of exposure. This I settle gently in place without any pressure; I then flow over this phosphate of zinc, of that kind that will adhere to the walls of tooth; allow to harden, and cut out, and excavate so as to leave as thick as possible over exposure. I then fill with gutta-percha, and leave this in till I am satisfied inflammation has not ensued, when I will fill with whatever the case demands. (3) Have never removed filling, but have filled the same

tooth on another surface sometime after, and found dentine sensitive and showing every indication of a healthy pulp. (4) I should say 50 per cent, as about half give no trouble at all, three-eighths having to be destroyed, and one-eighth being sensitive to heat for several days, gradually passing off and resuming normal condition. (5) We generally find more vital resistance in the younger subject. *J. H. Allen, Birmingham, Ala.*

THE DENTITION OF ANIMALS.

You will often hear it said that man is by nature a carnivorous animal, as is shown by the "canine" teeth with which he is provided, but it is not true. Human beings are carnivorous only by habit, and not by nature. It was Osteologist Lucas, of the Smithsonian Institute, who said so, and he added :

You see, it is always from an animal's teeth that the diet intended for it by nature is judged. But the fact that it has cuspids does not prove it is carnivorous. There are plenty of purely vegetable-eating beasts which have well-developed cuspids. Take the monkey, for example. Monkeys' cuspids are much more developed than those of man, but they are exclusively fruit-eaters, the cuspids being merely useful for fighting. If we are descended from anthropoid apes, and therefore have the canine teeth, we no longer employ them for combative purposes, and therefore they have become smaller. Man was originally frugivorous, presumably, though the time when he first began to eat meat must have been very far back, judging from the remains of extinct mammals found in the caves among the ashes of his cooking-fires, which burned, perhaps, hundreds of thousands of years ago.

It is by the teeth of mammals that they are most readily classified, inasmuch as the dentition illustrates the food of the animal and the general habits, which necessarily depend on its manner of procuring food. The teeth by which these things are determined are not the incisors, or the cuspids, but the grinders. A mammal usually has several kinds of teeth. Take the monkey for example. Its front teeth are for catching up and nipping little things. With them it catches and kills its parasites, the fleas, as does likewise a dog. Its incisors are for fighting, though in the carnivora they are employed to pierce the flesh deeply, so as to open the veins and bleed the victim to death.

THE TIGER'S INSTINCT.

Thus you will find a tiger will know by instinct where to strike the jugular vein of an ox better than most men would know.

Behind the incisors (cuspid) in the monkey, as well as in man, are found the pre-molars, which are for cutting up what is to be swallowed, while the molars perform the grinding process. It is really wonderful, you will observe, how admirably the entire apparatus is adapted for the purpose. You find the most remarkable development of the incisors of canines in the extinct saber-toothed tiger, contemporary with the cave-men, which had two knife-shaped teeth in its upper jaw so huge that it often died in consequence of catching them in the lower jaw, being thus unable to close its mouth. Each of these tremendous weapons had a keen saw on its inner edge.

The tusks of an elephant are its upper incisors. They are not intended for chewing, however, but for defense. You find all through creation the most astonishing adaptation of the teeth to necessity. You are familiar, of course, with the mighty ivory lance of the narwhal, ten or twelve feet in length, strong and sharp enough to be driven through the side of a ship. This lance is simply the left upper incisor of the mammal. Once in awhile, by a freak, both of the upper incisors will be developed in the narwhal so that it is equipped with two spears instead of one. The tooth, then, is designed for a weapon in fighting. The female has no such lance.

Look at the sawfish. The entire length of its saw, which is a prolongation of the nasal process, is fringed with teeth. Again, you have a weapon merely, the manner of the creature being to strike right and left, for the purpose of wounding its prey. In mammals, however, the teeth are restricted to the jaw-bones. Lizards and snakes have them on the bones of the palate as well. True bony teeth are peculiar to animals which have backbones. The most elaborate dental apparatus known belongs to the sea urchin, whose jaws are composed of forty pieces, moved by forty separate muscles. Snails have a sort of ribbon with which they rasp their food as with a file. Ant-eaters, though they are mammals, have no teeth, having no need to chew their prey. The whalebone whale is another mammal that has no teeth, its practice being to swallow its food whole.

A FISH WITH TEETH ON ITS TONGUE.

The biggest of fresh-water fishes, the "arapaima" of the Amazon, in South America, which grows to six feet in length, has teeth on its tongue, so that the latter resembles the file, and is used as such. Some kinds of trout also have the same peculiarity. Fishes that swallow their prey entire have their teeth so supported on flexible bases as to bend backward but not forward, that their victims shall not escape after they have been once seized.

In ages gone there were ferocious sharks, such as would make a mouthful of you without blinking. They were seventy feet in length. Plenty of their teeth have been found which are five inches long, whereas the biggest of the teeth belonging to sharks that exist at the present day are one and a half inches long. Speaking of extinct creatures reminds me to say that all of the early birds—those of early geologic times—had teeth with which they captured the early worms of the same period. Being descended from reptiles, it is natural they should possess a dental equipment, but when they ceased to be carnivorous they ceased to have teeth.

Some animals have teeth which grow during all their lives. The rat and the squirrel are examples of this. Our own teeth are developed from pulps, which are absorbed and disappear after the teeth are grown; but in a rat's tooth the pulp is perpetual and is continually secreting material by which the incisor gains length. Therefore, the animal is obliged to gnaw all the time to keep the tooth ground down to the proper length. It is commonly imagined that the rat keeps gnawing from pure cussedness, but such is not the case.

TEETH THROUGH THE BRAIN.

Sometimes it happens that the beast's upper and lower incisors do not meet properly, so that it is unable to gnaw, and its teeth keep growing around in a spiral. Cases have been known where a rat's tooth grew in this manner through its skull, so as to pierce the brain and kill the unfortunate. The biggest teeth I know of are those of the mastodon, which we have in the shape of fossils. One advantage about teeth is that they are harder than almost anything else in nature, and will last longer, so that they may be picked up in an excellent state of preservation ages after the animals to which they originally belonged are dead.

You often hear of rendering a rattlesnake harmless by pulling out its fangs. Then again you read of cases where a serpent so treated has bitten persons fatally. The reason for this is that a poisonous snake is deprived only temporarily of its venomous powers by the extraction of the two incisors in the upper jaw, at the bases of which are the poison glands. Of course you know that the fangs are hollow, so that when the animal strikes, the venom gushes through them into the flesh of the person struck. Now, by drawing the two teeth the snake may be rendered harmless for a few weeks, but after a short time the two teeth just behind the original fangs move up and take their places, making connections with the poison glands, and thus becoming poison fangs, as good and effective as were the old.

—*Washington Star.*

GROWTH OF THE WILMINGTON DENTAL MANUFACTURING COMPANY.

(From the *Philadelphia News*.)

The enormous growth of this company, whose main depot is at 1413 Filbert street, Philadelphia—instrument factory and branch depot in New York city; branch depots in Chicago and Washington, and porcelain tooth factory in Wilmington, Del.—is the most marvelous in the history of the dental trade. The business had its inception in the manufacture of teeth in Wilmington, by Dr. J. R. Tantum.

The president of the present company, J. F. Frantz, M.D., was associated with Dr. Tantum in his extensive professional work in 1876, and in 1879 became identified with him in his manufacturing business. From this date commenced the growth of its successful career, which in little more than a decade has brought it to the position of the second largest dental manufactory in the United States, and its products are distributed to every part of the civilized world. Push, energy, and studied application of scientific principles have brought to success.

In 1879 Dr. Frantz personally supervised the business, employing half a score of workmen in the factory, at the same time giving attention to extensive professional practice. He attended to correspondence, acted as book-keeper, assisted by a sacrificing and business-like wife; was general manager.

In 1882 the interest of Dr. Tantum was purchased by Mr. H. C. Robinson, a prominent banker of Wilmington, he in turn dividing this interest with Professor S. J. Willey, who for a number of years was prominently identified with the educational interests of the State of Delaware; a man of extended technical knowledge; an able and educated chemist; of late conspicuously identified with the political progress of the Diamond State, having served efficiently and honorably as Census Supervisor of the State, and to-day one of the most prominent candidates for Mayoralty of the city of Wilmington.

The Wilmington Dental Manufacturing Company was incorporated in June, 1882, succeeding the firm name of J. R. Tantum & Co., and Professor Willey, with his special adaptability for the practical details of the laboratory, assumed the care and management of the most important and intricate details pertaining to the manufacture of porcelain, with what results is more emphatically demonstrated in the steadily increasing demand for the product of

their factory, and recurring demand for more extended manufacturing facilities, than by any laudation in words—Professor Willey being ably assisted in his important department by Mr. George H. Whiteley, for several years proprietor of the Keystone Tooth Company, in the city of Philadelphia.

In 1886 they bought a controlling interest in the Welch Dental Company, of Philadelphia, the founders of which company, Drs. T. B. Welch and son, had attained world-wide fame as ardent champions of the cause of plastic dentistry, having presented to the dental profession the famous Dr. Welch's gold and platina alloy, universally acknowledged as the best plastic filling material, and which has secured the record of the largest sales of any alloy manufactured. In 1889 the Welch Dental Company was merged into The Wilmington Dental Manufacturing Company.

Ambitious for a broader field, where they could furnish patrons with everything essential to the dental office and laboratory, the company sought for an established manufacturing plant of unquestioned integrity of product.

The American Dental Manufacturing Company, of New York, was found to satisfy this condition, and in May, 1890, this company was absorbed.

The superior standard of the steel goods, operative and laboratory specialties of The Wilmington Dental Manufacturing Company was thus practically assured, and the record has already verified the assurance.

The company's catalogue is in itself a surprising revelation of the resources and extent of modern dentistry and dental surgery. Every ingenious appliance that cunning could devise or mechanic ability produce for aid in the appliance of this branch of science is here. The volume contains 366 pages, without its minute and exact index, credit for the arrangement of which is due to their advertising manager, Mr. A. S. Robinson.

The company is also engaged in the publishing sphere, so far as the crying needs of progressive dentistry are concerned, issuing a monthly magazine called "*Items of Interest*," which is now entering on the thirteenth year of a most satisfactory career.

Under the modest title of "*Items of Interest*" it conveys in many well-printed and well-filled pages the latest news of the profession, descriptions of improvements, outlines of recent experiments, and learned treatises on the appliance of the art in its various branches, together with brief discourses on the cause and treatment of diseases—all in the most compact and lucid shape.

The officers of The Wilmington Dental Manufacturing Co. :

J. F. Frantz, M.D., President ; S. J. Willey, Vice-President ; J. R. Moore, Secretary ; H. C. Robinson, Treasurer.

The history of great manufacturing houses is the history of the victories of peace, the record of concentrated personal effort, and often of the sacrifice of the best part of life. That the men who practically founded this company have lived to enjoy its full fruition is a pleasing conclusion.

IMMEDIATE REMOVAL OF PULPS.

In removing exposed pulps I seldom use arsenic, especially in single-rooted teeth. After adjusting the rubber dam, I put from one-fourth to one-half grain muriate cocaine on the top of my slab and add to this four or five drops of water ; I usually use a ten per cent solution. After drying the tooth the best I can, I saturate a small pellet of cotton in this solution, apply it to the cavity and leave it in about a minute ; then with a sharp stiff broach, puncture the pulp ; make it bleed, then wipe out and apply again. In a minute or two I can push the pulp out of the way with a small piece of cotton wrapped on a broach, then with a sharp bur I enlarge the opening ; keep the pulp out of the way, letting it bleed occasionally, or where there is pain. After you have all the room you want, draw the pulp back ; if there is pain, apply more cocaine and puncture with sharp smooth broach. Then with a sharp barbed broach (or what I like best is an ivory screw-broach), enter the pulp and pass it half-way or more up the canal, and you can extract with barely a twinge of pain ; let it bleed freely, wipe out with alcohol, then carbolic acid till it is clean and does not discolor cotton passed in on a small broach. Dry with hot-air syringe and fill. I use gutta-percha wound tightly around a wood point, and never chlora-percha, unless it is a flat or tortuous root with small apical foramen.

I would like to say a few words about roots and teeth, on which it is very difficult, and sometimes impossible, to adjust the rubber dam. There are hundreds of such teeth that we must save. It is not absolutely necessary for the canal to be dry for a successful root-filling, but it must be aseptic. After opening up a canal for treatment it should never be left without stopping it with cotton, not even when the dam is on. If this precaution is taken, and with the use of a saliva ejector, there need be no fears about filling any root you can make aseptic. —Dr. B. Q. Stevens, *Hannibal, Mo., in Archives.*

I love, above all things, to meet with American enterprise and persistence. Last August, when I was in France, the University

of Montpelier celebrated its six hundredth anniversary. All the universities of Europe were represented, but there was no delegation from America. At the last moment a gentleman appeared and said, "I represent the American colleges," and he was hailed with effusive enthusiasm. The place in the procession through the streets, the seat at the table, the pew in the chapel, were assigned to the universities represented in the alphabetical order of the various countries. Our representative was placed last, because United States began with U. He demanded first place, because in the French it is "Des Etats Unis." He marched at the head of the procession, carrying the American flag. Behind him were Heidelberg, with her five hundred years, and Leipsic, and Oxford, and Cambridge, and the rest, with their centuries. He spoke as one who had the right to be reckoned an equal by the presidents and professors of those mediæval seats of learning. When the day was over, a friend of mine, who had been filled with patriotic pride by the position of this representative of the universities of the United States, said to him:

"What college graduated you?"

"Well," said the Yankee, "I thought it too bad that America should be left out of this show, and so I waded in on the strength of a diploma from the College of Dentistry, of New York."

Chauncey M. Depew.

DEATH FROM NITROUS OXIDE. — A death from nitrous oxide is reported from Montreal. A man, aged twenty-four, went to the office of a dentist to have a tooth extracted, and requested to have the gas administered. After assuring himself that the patient was not suffering from heart or lung disease, the dentist administered the gas. No sooner had the tooth been extracted than the patient gave a gasp and fell over in the chair. He was placed on the floor and artificial respiration performed, but without restoring animation. The patient was not under the influence of liquor, and five hours had elapsed since last taking food (breakfast). The purity of the nitrous oxide was tested shortly after the accident by the President of the Dental Association, Dr. Beers, who himself inhaled it from the same inhaler. The verdict of the jury was that the man died from syncope, caused by the administration of gas, and they exonerated the dentist from blame.

—Druggists' Circular, September, 1890.

GERMAN MODE OF EXTRACTING TEETH. — There was one point in the operation of extracting teeth at the Berlin Congress which must have been quite novel to many, and this was the manner of

removing upper teeth. The operator stood at the back of the chair, the patient having the head well bent backward ; grasping the forceps with the handles farthest from him, he pushed, or rather drew, the blades toward himself. In this country, the operator always, I presume, stands on the right side, puts the left arm around the head, the right arm being as close as possible to the body, and the forceps are held with the thumb directed toward the blades, resting on and partly between the handles, near the joint, helping the fingers to control the amount of pressure on the tooth. In the German method—or, perhaps, only the Berlin method—the head is not under such thorough control, and the outstretched position of the arm, combined with the position of the thumb, resting on one of the handles, just where they are widest apart, is sufficient to destroy, to a great extent, that tactile sense which is so necessary for the successful performance of the operation. A better view may perhaps be obtained, but certainly not any better practical results, if one might judge from seeing the operation.

—*British Journal.*

Dr. W. G. Melotte, the well-known dentist of Ithaca, N. Y., gave interesting clinics before the Dental Section of the International Medical Congress, at Berlin, in which he illustrated his peculiar methods and specialties to the great interest of those who witnessed his methods. He also had the opportunity of presenting the same demonstrations before the British Dental Association at Exeter, England. He also met many of the profession in Paris, where he was received with marked distinction.

Dr. Melotte is the inventor of a number of valuable appliances and methods employed in dentistry, all of which are well known in this country, and it is well that dentists in other countries should have the benefit of his inventions and devices.

—*Dental Register.*

EDITOR ITEMS:—In February ITEMS Dr. H. M. Ramsden speaks of a case of very early eruption of the two lower central incisors. Several years ago a mother brought to me her babe of only seven weeks of age, for the purpose of having the two lower central incisors extracted. They had cut the under side of the tongue so it became very painful and much swollen. The teeth and roots were as fully developed as those of temporary teeth. The child is now thirteen years of age. At eight years the permanent teeth came in, the space being left so they were not crowded. I have a cousin who was born with the two lower centrals erupted. They were extracted, but never replaced by the permanent teeth, the space being left.

N. B. Sibley, D. D. S., Cambridge, O.

A WHOPPER.

Crocker the California railroad king, has a molar tooth well filled with gold, the crown of which is faced with four big diamonds. The dentist who did the work told me of it. The rest of Crocker's molars were in good order, and, as he was a strong-jawed man, he wanted his one poor tooth made of something that would wear and do good work, and not give away in the least as gold might do. So my dentist friend imbedded four rose diamonds in the gold filling, which he had built up from the stump of the old tooth. These four diamonds covered the crown of the tooth, and formed four cusps as keen cutting as those of nature and a deal harder. The job cost Mr. Crocker \$1,500. Many society women and actresses have diamonds set in the cavities between their upper front teeth. But you will not find them doing this unless their teeth are otherwise white and perfect in every respect. They use a diamond for a double motive, to fill the cavity and to attract attention to the natural brilliancy of their teeth. Some people who have their teeth filled with gold are proud of it, and wish the gold to show as much as possible; others ask if the gold cannot be covered with something so it will not show. I know a society woman who accidentally broke the corner from one of her front teeth, and rather than have it pieced out with gold, had a little tip made of porcelain and mortised on.

—Dr. Edwin E. Davis, in *Globe-Democrat*.

The way I set a crown is first to ream the canal so as to exactly fit the pin. But I want to warn you against being in a hurry, for one object I have is to depend not merely on the cement, or whatever material is used for setting the crown, but somewhat on the mechanical arrangement of the pin in the root. A cross section shows that the pin is flattened in the center, and has a flange on its two edges. If the reamer be allowed to cut down into the canal, and is simply moved backward and forward, it will drill an eclipse, an eclipse that will be perfectly rhomboidal; therefore, when the pin is put into the tooth it touches the walls of the canal at four points. There being a square surface and a grooved one, there is a space on both sides for cement. The depression in the tooth leaves room for the cement; consequently, in addition to the holding power of the cement, you have that of the impingement of the pin on the walls of the canal at four points.

—Dr. Ottolengui, in *Review*.

ALVEOLAR ABSCESSES WITH FISTULOUS OPENINGS.

I first open the pulp chamber in as direct line of the canal as possible, ream out the pulp chamber thoroughly, so I can see or reach each canal. Syringe out with warm water, disinfected with bichloride of mercury (of a solution of one one-thousandth), taking one-half of this solution to four ounces of water. After this, if it is practicable, I adjust the rubber dam, then proceed to cleanse the canals, using Donaldson's canal cleansers. With a free use of peroxide of hydrogen and bichloride of mercury one one-thousandth (equal parts); if possible I work this through the fistulous openings; then I wipe and cleanse thoroughly with alcohol; then with hot-air syringe dry out. After this pump in with cotton on a fine broach, wood creosote and iodine (equal parts), and work it through the fistulous openings. If this is a single rooted tooth, I proceed to fill; that is, I first take an impression of the canal, to ascertain the size of the apical foramen, or if it has jagged edges. If it proves to be smooth and not unusually large, I fill at once. Otherwise, I would pack tightly with cotton saturated with wood creosote and iodine, fill with rubber and wait one week. If the root is normal, I would fill. If more than one root, I would only fill those that reach the fistula and test the others for a few days with a temporary filling.

The blind or incipient abscesses I would open and cleanse as first stated, with fine Donaldson broaches, being very careful not to go through. After effervescence ceases, cleanse with alcohol, and medicate with oil of cinnamon. It would depend on my patient whether I would stop it tight. I usually prefer to leave a string of cotton in the canal and stop with sandarac, so my patient can remove it if necessary. If, however, it is not removed, I would fill at the next sitting, say, in two or three days.

—Dr. B. Q. Stevens, *Hannibal, Mo., in Archives.*

A TEST FOR ROCKING FILLINGS.—Fillings may rock so little as to be imperceptible to the eye, yet be sufficient to cause leakage and consequent undermining and disintegration around weak walls. In fact, I think I would be safe in saying that one-third of the cohesive gold fillings in cavities with two walls broken away, that must be restored by building out rock, especially if an undue amount of malleting has been exercised in the process of condensation. This may seem an extravagant assertion, but if those who doubt the statement will take the trouble to test fillings in their practice, they will find I am not far wrong.

A good test for rocking, after a filling is well under way, is to take a strip of gold, say an inch in length, and tacking one end on near the center of the filling, allow the strip to stand off at right angles to the tooth. Then, by placing the point of the plugger first one side, then on the other, and tapping with the mallet, if there be any rocking, the outer end of the strip will be perceived to move from side to side through space, as the filling is alternately tapped. An amount of tipping, which would be imperceptible under a strong glass, would manifest itself by this test, and, after trying it awhile, one would be surprised at the small number of cohesive fillings in daily practice that do not show just the least amount of rocking.

Ed. Sou. D. Jour.

COPPER AMALGAM.—Dr. I. J. Weatherbee says: I am obliged to condemn the use of copper amalgam. It is the blackest black sheep in the whole lot of amalgams. Some think it serves a better purpose than any other filling, because by its peculiar properties it bids defiance to the whole tribe of microbes,—that it puts them all to sleep and keeps them harmless. But this is not so. I have removed copper amalgam fillings which had been inserted by men who were capable of doing good work. One had been in for a year, and there was partial decomposition at the cervical wall. Another filling had been in two years, and there was decomposition of the filling with some decay of the tooth-substance. These were fillings put in for economic purposes, but I charged at the rate of ten dollars an hour for drilling them out. It is claimed it is an absolutely sure filling, yet I could have filled the same cavities with gold or tin and preserved them longer. It is an easy thing to dabble with plastic fillings, to putty up a cavity, and imagine that we are practicing dentistry, but I am surprised to hear the subject seriously treated. We have amalgams on the market that will last as long as copper amalgam, and do not have the terrible color it has. My knowledge of it does not show that it fills any place not already occupied by better material.

—*Cosmos.*

EDITOR ITEMS:—Dr. Blakeney, in March ITEMS says there are two thousand seven hundred and fifty-four languages in the world. There are more than double this number if he counts all dialects as languages; but many languages, such as those spoken in Asia and Africa, have each several dialects. There are not half as many distinct languages as he gives.

B. Thomas.

DIFFERENTIAL DIAGNOSIS OF DENTAL PAIN.

In the *Journal* of the British Dental Association, Mr. H. Baldwin, M. R. C. S., gives the following useful table. For simplicity, the two kinds of pain may be called "nerve pain" and "pericemental pain."

NERVE PAIN.

Arises suddenly.
 Terminates suddenly.
 Is not continuous.
 Is chiefly non-localized.
 ** Much neuralgia.
 Tooth always sensitive to thermal changes.
 Percussion or pressure does not necessarily cause pain.
 Tooth not raised, not loosened.
 Tissues around not inflamed, not tender on pressure over root.

PERICEMENTAL PAIN.

Arises gradually.
 Terminates gradually.
 Is continuous.
 Is distinctly localized.
 ** No neuralgia.
 Tooth not sensitive to thermal changes.
 Percussion or pressure causes much pain.
 Tooth raised and loosened.
 Tissues around inflamed, tender on pressure over root; in chronic cases tissues thickened.

In using this table it must always be borne in mind that the two conditions of pulp inflammation and pericemental inflammation may co-exist in the same tooth or in different teeth; and then the relative importance of the two inflammations will be determined by the relative severity of the two sets of symptoms, and sometimes by the history.

TO PRODUCE ABSORPTION OF GUMS.—In excessive proximate decay, when this has extended below the gum margin, I have produced an absorption of the gum, prior to the application of the rubber-dam as follows: I wrap a piece of dental floss or gilling twine twice or more around the tooth, forcing this well up on the neck of the tooth, and filling the remainder of the cavity with red base plate gutta-percha, forcing this likewise well against the ligature. This will often be but an initiatory step. At the next presentation I can see the condition of affairs better, when I either repeat the procedure with the ligature as described, or force the gutta-percha between the teeth, crowding it well against the gum margin at the neck of the tooth. When there is a little tongue of gum extending into such cavities, I do not attempt its absorption, but I dissect it away with a sharp pointed abscess lance, and when the bleeding has subsided, proceed as above.

—Dr. T. F. Chupein, in *Mirror*.

ARTIFICIAL TEETH IN THE THROAT.

At a recent meeting of laryngologists in London, Mr. Lennox Browne described the case of a middle-aged woman who was sent to him from the provinces, for the purpose of deciding whether her malady was laryngeal cancer or phthisis. Though a tall, large-boned woman, she only weighed a little over ninety pounds, and was obviously very much emaciated. He peeped down her larynx and to his surprise saw what he recognized to be a plate with artificial teeth firmly impacted in the larynx, where it had been for the last twenty-two months, unknown to the patient. She remembered having been awoke in the middle of the night by a violent fit of vomiting, and when the teeth were inquired after, it was assumed that they had been thrown away with the dejections. From that day forth, however, she suffered from difficulty in breathing, pain on swallowing, etc., associated with progressive emaciation. With some difficulty the plate was removed and exhibited to the admiring friends, and the patient rapidly recovered health and spirits.

—*Medical Press.*

CEMENT WHICH RESISTS ACIDS.—Melt together carefully one part of caoutchouc (India-rubber) with two parts of linseed oil, and gradually incorporate with it three parts of white bole, so as to form a plastic mass. This cement is not at all attacked by hydrochloric, and but very little by nitric acid. When heated it softens but very little. It does not easily dry on the surface. If this cement is mixed with one-fifth of its weight of litharge, it dries up in the course of time and becomes hard. This is known as Benicke's cement.

—*New Remedies.*

VULCANIZING.—It is generally known that it is not possible to vulcanize rubber next to *silver*, as the vulcanite will not harden on account of the affinity which that metal has for the sulphur which is in the rubber. This is likewise the case with *iron* and *steel*, from the same cause; and it is necessary, when it is desired to vulcanize in juxtaposition to these metals, to interpose a coating of tin or gold. For the information of those who may not know, we will say that this is not the case with *German silver*, *brass*, *tin*, *platinum*, *gold*, or *aluminum*, sulphur having no affinity for these metals, vulcanite hardening thoroughly when next any of these metals.

—*Office Laboratory.*

DR. WILLIAM H. ATKINSON.

The Central Dental Association of Northern New Jersey has passed the following resolutions :

We, the members of the Central Dental Association of Northern New Jersey, have learned with sincere regret of the death of our friend and fellow-member, W. H. Atkinson, M.D., D.D.S., of New York. By reason of his great abilities, scholarship, zeal, industry, and self-sacrificing devotion to the interests of the dental profession, and the never-failing willingness to impart his knowledge to all who asked it, he was recognized by us as the most influential member of our profession, a man who devoted his life to its honor and advancement.

During the eleven years of the existence of this society, he has scarcely missed a meeting ; and his relations with us have been such, that it is our pleasure and duty to record our high appreciation of him.

By the death of Dr. Atkinson the dental profession is deprived of one of its most able and useful members, one whose influence for good will last while dentistry exists.

We have lost one of our best friends ; and as we fondly called him "Father Atkinson," so indeed do we feel we have lost a "Father in Dentistry."

We, therefore, extend to his family, and to our brother members of the dental profession, our sincere sympathy in their great bereavement.

EDITOR ITEMS :—At the meeting of the Chicago Dental Society, Tuesday evening, May 5th, 1891, the following resolutions on the death of Dr. William H. Atkinson, of New York, were adopted :

WHEREAS, The Chicago Dental Society having learned of the death of Dr. William H. Atkinson, of New York, one of the most eminent, learned, and best-known members of the dental profession ; therefore, be it

Resolved, That in the death of Dr. Atkinson the members of this society feel a sense of personal bereavement in the loss of a much-loved and conspicuously useful member of the profession, and while we bow with humble submission to the Divine will, we desire to express our sorrow in his final exit to the unknown land beyond this world of ours ; be it further

Resolved, That the Secretary transmit to the bereaved family of Dr. Atkinson a copy of these resolutions, and that a copy be furnished the dental journals for publication.

J. N. CROUSE,
A. W. HARLAN,
W. W. ALLPORT,

MAY 8th, 1891.

Committee.

At the recent Medical Congress, Washington, D. C., where Dr. Atkinson was to read a paper, a feeling tribute to his memory was unanimously expressed.

DEATH OF DR. E. R. E. CARPENTER, OF CHICAGO.—It is but a few weeks since this prominent dentist read an interesting paper in New York, and was congratulated on his "perfect health." On March 30th he died of the grip.

The sudden death of Dr. William Witt, the well-known dentist of Chicago, will be deeply regretted by his many friends. He died of a complication of pneumonia and heart failure. He was in his office only the day before.

Dr. Witt was one of the most promising members of the profession. He was born in Baden, Germany, in 1858, and for several years was proprietor of the Transit House barber shop. He took up the study of dentistry, and became so attached to it that he disposed of his business as a barber, and entered the Chicago College of Dental Surgery, from which he graduated with honors in March, 1887. He then went to Russia and studied for some time with a friend of his who was a well-known dentist there, but not liking the country he returned to America, and established himself in business in the Swift Building, at Root and Halsted streets. He had many friends, and his ability, coupled with his genial disposition, soon resulted in a large practice. Seldom has a young man been more successful, and his sudden death, at the opening of a bright career, will be deplored.

Dr. Witt leaves no family, but was to have been married a few weeks hence.

—Sun.

William F. Atkinson, a dentist, son of William H. Atkinson, died suddenly in the insane pavilion at Bellevue Hospital. Though his condition has been pitiable for a long time, his death was not expected. He was only thirty years old. He was graduated from the Dental College four years ago, and had built up a lucrative practice. About two years ago he began to take morphine, and since that time he has been in poor health. The habit steadily grew stronger, and at last he added cocaine to morphine. A year ago he became a mental and physical wreck.

For the past year he has been kept at home, and carefully watched by the family. On Sunday night he became violent, and it was thought best to have him removed to Bellevue. He made no resistance. At 11 o'clock he was put in the insane pavilion, and he began to get worse immediately.

—New York Sun.

AMERICAN DENTISTRY.

A lady from this city was on a visit to friends in her native country, Germany. It occurred to her to have some dental work done while there, as presumably everything is better in the old country than in America. Accordingly, she visited a dental office in Strasburg, intending to have her dental organs put in first-class condition. Among other nice things the accomplished tooth artist told the lady was, that he would fix up her teeth in first-class American style. She—quite a business woman, by the way—asked him if American dentistry is superior to German dentistry. "Undoubtedly, madam!" exclaimed the unsuspecting dentist, thinking thereby to impress his prospective patient with a sense of his greater skill, and not knowing that she was living in America. "If that is so," quoth she, "I'll wait till I get back home to have my work done," and left the bewildered dentist to reflect on the uncertainties of getting fees.

C. Ratzburg, D.D.S., Shreveport, La.

EDITOR ITEMS:—In looking over the April ITEMS, I see on page 253, in speaking of H_2O_2 , it recommends the throwing away of the drug when it is old. This was my habit till I accidentally learned through experimenting that by warming it over a spirit lamp it will again respond.

Good peroxide when brought in contact with pus, blood, serum, or any disorganized organic structure, will effervesce, provided liquid is at a proper temperature to give off its oxygen.

Just bring the *fresh* liquid near the freezing point and it will no longer be active; but warm that up, and it will respond. The higher the temperature, the more rapidly will it give up its oxygen, which is the chemical value of the drug. This very fact of the temperature affecting the activity of the drug is why it will deteriorate in warm places.

W. C. Davis, D.D.S., Oxford, Iowa.

EDITOR ITEMS:—I have been using the Shaw engine for several years. One objection I found, and a very serious one, was the constant breaking of the duplex spring. At last I have found something that fills the bill—durable, less expensive. It is the spring used on the Johnson engine. Try it.

E. H. Moor, D.D.S., Edwardsville, Ill.

DARK JOINTS—THEIR REMEDY.

I began making vulcanite plates over thirty years ago. The joints were dark. I packed them with tissue paper and cotton, and deeming these objectionable I hit upon the idea of gold foil, and was delighted with the result. I gracefully yield to Dr. Henley the credit of first making this invention known, though I claim priority of the discovery by thirty years.

I used gold foil about twenty years, at an average of about five cents per set. I cut a leaf of No. 3 or 4 foil in five strips, making a rope two and one-half inches long of each; with one of these I packed all five joints, using the edge of a penknife blade; one thickness of the rope is sufficient, if the back of joint will about admit a cambric needle. This should be done after scalding out wax. About ten years ago I queried if tin foil would not do as well as gold. I tried it, with equally good results, and have used it ever since.

I have never had a set of dark joints since I commenced their use.

W. W. France, D.D.S., Milford, Del.

BLACK JOINTS.—**EDITOR ITEMS:**—After grinding your blocks, keeping joints as *square* as possible, and not allowing *any wax* to get into them, wax your case up ready for flasking. Slip out the left central block, mix some *fine* plaster very *thin*, coat the ends and place back in position. Then remove molar block, same side, coat the end and return. Last, remove the right cuspid block, coat both ends and return. By the removal of these blocks, you see, you coat all the joints without interfering with the articulation, and in coating the entire joint, you protect it inside and out. It is not necessary to say you must not have too much rubber or use too great force in bringing flask together. Try it.

Geo. F. Woodbury, D.D.S., Phila.

[The trouble with the above plan is that the plaster soon dissolves out and the vacancy becomes filled with decaying food. We never had trouble with black joints if they were good joints, and not forced apart by injudicious packing. Of course, if melted wax enters, discoloration follows.—**ED. ITEMS.**]

EDITOR ITEMS:—I desire to enter on no encomium on your journal. It needs none. But in this hard world praise to the worthy is never amiss. The number of dentists in the United States, I believe, is about twenty thousand. On this basis the circulation of your journal should be about the same, for no dentist can afford to be without it. The dental profession is not a learned one, but it is one that

is made up of *odds* and *ends*, and you, in your ITEMS OF INTEREST, are the first to have struck the key-note of dental journalism in carrying on a magazine on this basis. The principle is the correct one, and it is to be regretted that you cannot have a representative in every town. Every skilful dentist has some little method or trick, as you might call it, of his own, that will make easy some operation that seems difficult to other operators. It is *odds* and *ends*, as I have said, which make up the whole science of dentistry. Your journal is on the right road, and has traveled it a number of miles; and you serve dentists and the public at large.

G. S. Junkerman, D.D.S., M.D.,

Dean Dental Department, Cincinnati College Medicine and Surgery.

EDITOR ITEMS:—In the February ITEMS, I have just read the conflicting opinions of *two doctors* concerning the effects resulting from the "vulcanization of rubber plates." One says if rubber is closely confined, its expansive force often causes broken plates; the other—but partly in an *indirect* manner—that some rubber will cause such results, but other rubber, "if correctly vulcanized, will not produce such results." Now, I have had four years' experience, and during that time I have used many kinds of rubber, and vulcanized with it closely confined and otherwise, and though I have used several makes of teeth, I have never failed but once to put in sufficient rubber; though I never measure the rubber, yet during all my experience I have never had a single block broken. I suppose I close the flask with as much force as is usually exerted, and I cannot see why I never break blocks as others do.

Some one was talking to me not long since about their frequent fracture of blocks in vulcanizing, and I told them I could not understand how it was done, as I never had such mishaps. Won't some one please explain where the other *two doctors* are wrong, or why I have had such good success? Is it in the investing, or manner of packing? M. W. White, D.D.S., Yorkville, S. C.

While valuing phosphate fillings, especially in the preparatory treatment of children's teeth and as a non-conducting flooring under metallic fillings, I never insert them in deep cavities of living teeth without applying on the region overlying the pulp a protective film of mastic or carbolized rosin. Such a proceeding reduces to a minimum the pain often produced by the introduction of the filling, and I believe prevents the ill effects which otherwise may arise from the near contact with the pulp of the cement.

Dr. L. Matheson, D.D.S.

Our Question Box.

WITH REPLIES FROM OUR BEST AUTHORITIES ON DENTISTRY.

Address all questions for this department to DR. E. N. FRANCES, Uvalde, Texas.

Question 16. *In many cases I find difficulty in filling roots of molars and bicuspid, on account of their small size, and have many times been unable to fill them with satisfaction to myself. Will you kindly describe a method by which this difficulty may be overcome?*

I do not know of a method, except opening up with a drill, which is hazardous.

Wm. H. Cooke, Denton, Texas.

I have never been able to fill one yet satisfactorily to myself. "It can't be did" perfectly.

H. A. Lawrance, Athens, Ga.

Enlarge canals to utmost extent; prepare pulp canal with fissure and Brewer's drills; in difficult cases use flexible stem reamers. Fill with dissolved gutta-percha.

F. H. Ellsworth, Wellsville, N. Y.

When canals are small, I enlarge with a flexible bur or drill; prefer drill, because it is not so liable to force débris through the end of root.

W. A. Moore, Benicia, Cal.

All roots having compressed canals, especially in bicuspid and molars, I drill, or bur out, sufficiently to enable me to treat and fill properly. I have very few failures in these teeth. Thoroughness is the secret of success.

A. F. Davenport, North Adams, Mass.

I take a large bur, cut away the tooth sufficiently to make an easy approach to the roots, and, if necessary, drill them so I can properly cleanse and disinfect them; then fill with oxychloride.

R. E. Watkins, Eutaw, Ala.

When the nerve canal is so small a fine probe may not be introduced, or gutta-percha in chloroform solution be forced in, there need be little fear of future trouble. I *never* drill a nerve canal to fill it.

Jerome Stuart, Kansas City.

The method I am most successful with is, after thorough cleansing of all loose débris, to push alcohol well into every root; then follow with semi-fluid oxide of zinc, mixed with small amount of iodoform and carbolic acid. Seldom has trouble followed this manipulation, if thorough.

W. E. Snyder, Fernandina, Fla.

Oxychloride, mixed thin, pumped up by delicate nerve broaches, and, before the setting of cement, pressed by a few shreds of cotton round a broach and left in the canal, will probably fill the entire space; and if not, the oxychloride will act as an antiseptic and prevent further trouble.

A. Pagenstecher, San Antonio, Tex.

Cleanse pulp chamber and canals of all débris; subject the cavity to treatment with antiseptics, and enlarge canals as much as possible, leaving them funnel shaped. Now pass a small piece of metal (I prefer gold), a little

larger than the broach used, into canal, as near the apex of root as possible; introduce a quantity of gutta-percha, softened by heat, and with a large, blunt instrument, either metal or wood, press the gutta-percha so as to force it into the roots as thoroughly as possible. If not satisfied that it has filled the root canals, I repeat the pressing process with a large, blunt metallic instrument, warmed to a high temperature, warming the gutta-percha to extreme softness. The filling should now be made compact with a large instrument, surplus cut away, and filled with more enduring material.

Such an operation is never *entirely* satisfactory, as you cannot know the canal is thoroughly full. The metal used in the beginning is to prevent gutta-percha from passing through the end of root.

W. H. Morgan, Nashville, Tenn.

Enlarge mouth of canal in bicuspid with pointed fissure bur or root-reamer; follow with Gates-Glidden drill to apex of root, passing through the apex if abscess has formed. With round bur enlarge pulp chamber to obliterate spaces occupied by pulp horns. To fill: Adjust dam and place canal in antiseptic condition, avoiding the use of peroxide of hydrogen. Dry thoroughly, then, with a cotton wound broach, introduce Black's 1-2-3, and evaporate to dryness with hot-air syringe. If apex of root has been pierced, close the apical aperture with a very small pledget of cotton dipped in chloro-percha and carefully introduced; evaporate the chloroform with hot air, and then fill the entire canal, in the usual way, with chloro-percha and gutta-percha points. The cause of fine canals in bicuspid is usually a constriction at the middle third. A prevalent cause of unsatisfactory results, in filling bicuspid roots, is failure to enlarge the *pulp chamber* sufficiently to obliterate the spaces occupied by the pulp horns. The same general rule will apply to molars, though the details must be varied to correspond with the case, as the roots of upper and lower molars differ in shape. Do not pass a bur through the end of a molar root, as you cannot be certain that you strike the apical foramen, on account of the tendency of the root to be curved near the apex.

B. Bement, D.D.S., Lockport, N. Y.

Question 17. *A gentleman of forty-five years, trying to wear a partial superior set of six front teeth, is so troubled by the plate gagging him, he is unable to wear it. The plate is light and short as can be made. What am I to do?*

Make a bridge.

F. H. Ellsworth.

Make a spring plate.

Jerome Stuart.

Try covering both sides of plate with vulcanizable gold.

B. Bement, D.D.S.

Make a bridge and not allow plate to extend over palate at all.

R. E. Watkins.

I would use gold for the plate, and if that gags him, I should try a bridge.

W. A. Moore.

A plate encircling the arch to the first molar on each side, and not wider than five-eighths of an inch, would no doubt be tolerated.

A. Pagenstecher.

If the plate fits perfectly and is very firm in place, I know of nothing to be done.

H. A. Lawrance.

Make a piece of bridge-work, anchoring to both cuspids, covering them in part or entire as the exigencies may suggest.

W. H. Morgan.

Crown first bicuspid on either side with gold; swage narrow gold plate to alveola ridge; attach with strong spring clasps. The gold crowns will protect bicuspid from injury by clasps.

Wm. H. Cooke.

Would make a *clasp* plate with no palatine surface, or fasten a suction-plate—if such was necessary—by clasping, to prevent any moving in the mouth. Motion often is a cause of gagging.

W. E. Snyder.

By the constant wearing of the plate, the gagging will be overcome.

For partial sets, I do not cover the mouth with a suction-plate; I usually make a very narrow plate with a steel piano wire inside the rubber, taking advantage of the remaining teeth to lock the plate sufficiently firm for lower mastication.

A. F. Davenport.

Question 18. *A lad of twelve years had two-thirds of his left lower incisor broken off, and the pulp, being exposed and painful, was removed. The other incisors and molars are in place, but the cuspids are not erupted and bicuspid are a trifle crowded. What is best to do with the broken incisor?*

Extract the broken incisor.

W. A. Moore.

If arch is small remove it.

F. H. Ellsworth.

Crown the broken incisor with gold and widen the arch with regulating appliance if necessary.

Wm. H. Cooke.

Let the broken tooth remain till the mouth is fully developed, then proceed to regulate.

H. A. Lawrance.

Extract the root.

R. E. Watkins.

I would crown immediately with Logan crown set in cement, and attend to those cuspids after they appear.

W. E. Snyder.

Crown the incisors and, if room must be had, extract a bicuspid or first molar, but *never* sacrifice one of the incisors or cuspids.

Jerome Stuart.

I think I should extract, if there is a fair prospect of closing the space; if not, I should crown the root.

A. F. Davenport.

Remove the tooth or crown and await results of development. These are hypothetical cases, real only to him who has seen them, and may be modified in treatment

W. H. Morgan.

If the jaws are narrow, indicating a possible crowded condition in the future, then extract; but if the contrary, save the root to be crowned in the future.

A. Pagenstecker.

If there is plenty of room for the cuspid to erupt in its proper position, crown the broken incisor; otherwise extract it, and on the appearance of the cuspid apply lateral pressure between the left bicuspid by means of rubber strips. This will force the cuspid toward the right and divide the space between the bicuspid, the cuspid and remaining left incisor.

B. Bement, D.D.S.

Queries from Various Sources.

B. H. F.—Spunk is an agaric or fungi, belonging to the mushroom family. We have never heard of an imitation from sheep-skin, though it can be made to resemble it in some respects.

D. M. uses the best of solder, two carats lower than plate, and with borax as a flux, solders according to directions, but solder balls and plate often melt before solder will flow.

You throw the flame from your blow-pipe on the solder too soon.

W. J. J.—Life and health should be first considered; beauty and regularity after. In case described, the extraction of temporary teeth for the cure of abscess was proper, as regards anterior teeth, but a thorough treatment should have been tried before the removal of the posterior. In *ITEMS*, February, 1891, page 109, will be found a similar case, with answers regarding the effects on second dentition. A child's life was saved in this case. The permanent teeth of your patient will be somewhat affected, the extent depending on conditions.

G. M.—In filling teeth that have been dead some time, we often meet with many obstacles. The roots sometimes become filled with an inorganic substance, causing difficulty in thoroughly cleaning and treating; at other times the apex of roots are absorbed, making an enlarged opening, through which may be forced débris and material used in filling. We think the trouble, as you describe it—a swelling of the gum after filling—was caused from imperfect cleaning, disinfecting, or the forcing of some foreign substance through the root, into what may have been an old pus pocket. As you have filled with oxyphosphate the filling will be difficult of removal, so external treatment will be in order. If a reduction cannot be made with local treatment, puncture and treat internally.

G.—Wishes to know how a pulp is to be destroyed with arsenic in a tooth or root that has no walls to retain arsenical preparations, or one in which you fear to put arsenic, thinking it may escape into the mouth.

If badly decayed, with cavity extending under the gums, build up the cervical wall with cement, or some plastic, the proper height to protect the surrounding tissue. If cavity has no supporting wall to retain dressing, drill a cavity with retaining-pit drill in any part of the tooth you wish, extending it to the proper depth to sustain a small quantity of arsenic sealed with gutta-percha. This will deaden the nerve fibres so that the cavity may be enlarged at the next sitting, and carried deep enough to kill the pulp with the next application. In roots, creosote can be used to cauterize the exposed portion, and a sufficient amount of arsenic forced into the root-canal with a nerve-broach wound with a shred of cotton. It is not necessary to leave any cotton in the canal; enough arsenic will remain, if properly applied. Seal with gutta-percha or wax, and never use varnish or so-called chloro-percha. Very little arsenic is required to kill a nerve; but it must not be suspended in varnish, and it will not act properly if the dentine is saturated with it.

STUDENT.—A correspondent from Canada wishes to know the treatment for gums that have receded from the necks of teeth, caused by the use of a dentifrice—sozodont.

The recession of gums, caused *wholly* by the injudicious use of sozodont, as a dentifrice, is a novel case, and we are inclined to think there is a complexity of causes, and that the use of sozodont merely hastened or developed a condition to which the patient may have been naturally disposed. A slight formation of tartar, the use of a stiff, harsh tooth-brush on which the dentifrice was applied, may have much to do with the case in hand. Discontinue the use of sozodont and hard brushing, remove all traces of tartar, and—if the general health of the patient is good, and the mouth is free from the effects of mercury and acids—an astringent wash, formulated for the case, will, we think, be all that is required; if, however, the gums are inflamed or swollen, and cannot be reduced by astringents, it may be well to touch them up with creosote or sulphuric acid. Peroxide of hydrogen will be useful, if any pus exists under the free margin of gums. If the above does not accomplish the purpose, send us a more definite statement, and we will give a more specific treatment.

The following are answers to questions for last month, that were delayed in reaching us:

Question 14. *What is the best course to pursue with abscessed teeth in first dentition?*

Question 15 *In preparing a central incisor for Logan crown, the drill was carried through the apex of root, causing pain and hemorrhage. The crown was attached at once with amalgam, and the patient informed that it would tighten and last forever, if undisturbed while setting. In a few weeks the crown came off, and the patient wished it replaced. The root is filled with blood, and bleeds on the slightest provocation. How should this be treated before crowning again?*

Q. 14.—Reduce abscess, if swollen externally, lance, and follow by external injections of luke-warm water and carbolic acid (weak solution). Excavate the tooth thoroughly, and as soon as admissible fill root with cement; if necessary, apply capsicum plaster externally. Generally this will prove successful.

Q. 15.—Is a peculiar case. I should try to fill the root with gutta-percha in some way, and then set the crown with copper amalgam. I should use a Logan crown with a swedged gold band, which, if properly set, will not loosen. I had a case similar to the above: six superior molars. The apex of one root was so wasted by disease, blood flowed continually as soon as excavated. I packed cotton in it, after wetting and dipping in powdered per sulphide of iron, and allowed it to remain a day; then removed carefully, filled the root with gutta-percha and then inserted a filling in crown. It never gave trouble.

W. B. Banks, Detroit, Mich.

Q. 15.—Free the canal from all foreign substances; then carry to apex of canal a pledget of cotton moistened with creosote, and fill the remainder of canal, or nearly so, with cotton and sandarac varnish, and the rest with gutta-percha. Leave one week, or more. If inflammation supervenes, treat it as in other cases of inflammation till a normal condition supervenes. After the healing of soft tissue at apex of root, the filling is to be removed, and the canal measured as to length and size; then fit accurately a plug of cork, and carry by same pressure to the end of root—not through, but even with the apex. You can now insert your crown with the best grade of cement, waiting for its hardening before dismissing your patient.

Q. 14.—Fill the cavity with cement, after filling roots with gutta-percha points; if abscess follows, lance. You may treat the canals for a few days, if indicated.

I. J. Wetherbee, D.D.S., Boston, Mass.

Q. 14.—It is difficult, even impossible, to give an answer—What is the best course to pursue with ulceration in first dentition?—that will apply to all cases. Difficult cases will require varying treatment, dependent on the period of progress when treatment is to be made—also, as to whether it is in the acute or chronic stage; and very much depends on the constitutional condition of the patient, as well as the age of the patient. Some times such teeth should be promptly removed; at other times it would be absolutely wrong to remove them. If such teeth are to be retained, the parts should have such treatment as would be employed elsewhere for a similar condition.

Temporary teeth, ulcerated at about the time they should be shed, should be removed. If, however, ulceration should occur a year or more before the usual time of shedding, effort must be made for restoration of the part to healthy condition, or, at least, so far that the teeth may be comfortably retained and serve their purpose. If you give proper study and attention to the subject, you will have little difficulty in knowing what to do in ordinary cases.

Q. 15. In reference to a Logan crown on a central incisor tooth, in most cases a root drilled through at the side [should have been apex. E. N. F.], as you here describe, will prove a constant source of irritation and annoyance, irrespective of any treatment that may be employed.

In reference to the case to which you refer, the probability is (assuming that the conditions are as usual) that the root should be removed and no attempt made to attach a crown. However, in respect to such a case, this is only a random suggestion. To give definite instruction as to the best course, one should see the case. We are compelled to recognize the fact that in diseased conditions, as well as in states of health, every case possesses its individuality and peculiarities differing from all others.

J. Taft, Cincinnati, O.

Yours of March 24th, to Dr. Harlan, referred to me for a reply. Shall I answer your questions in the *Dental Review* of May 15th, '91?

Louis Ottofy, 70 Dearborn Street, Chicago, Ill.

We will be pleased to see your answer in the *Dental Review*.

E. N. F.

Monthly Gossip.

BY WM. E. BLAKENEY, D.D.S.

IT IS ESTIMATED by the health authorities that 150,000 persons in New York city suffered from the grip in April.

THE UNWRITTEN LAWS of professional etiquette are far more effective as a restraining influence than any recognized code.

IN PERFORATING THE ANTRUM, Dr. Dwinell believes it should be done, if possible, at the lowest level, to facilitate drainage.

DR. ROSWELL PARK, in one of the Matter lectures delivered at the College of Physicians, of Philadelphia, took strong grounds against the use of pyoktanin. The profession should go slowly in the use of this new antiseptic.

DR. ALTON H. THOMPSON has contributed another able paper to the *Cosmos*, on "The Descent of Expression." Those who hold to the traditions of physiognomy will discover solid material in these papers for views antagonistic to the writer.

DR. J. W. RUSSELL is a firm believer in the excellent quality of copper amalgam. He says: "There are, at the least calculation, one thousand good dentists in this country who use this filling because it is known to save teeth when all other fillings fail." We think the doctor is mistaken in this calculation.

"DR. HORSLEY'S EXPERIMENTS in the transplantation of the thyroid gland of animals to the human subject have been followed," says the *International Journal of Surgery*, "by a practical application of the procedure, and bid fair to add one more to the many splendid results attained by this wonderful experimenter."

IT IS THE OPINION of Dr. George H. Wilson that "we should have brain in our fingers, and students should be taught manipulation as well as any other part of their studies." Delicacy of touch is as necessary to those who practice oral surgery as scientific knowledge, and this fact ought to be universally acknowledged.

DR. CHARLES S. BUTLER believes that the profession should "establish a national school for preliminary education for dental students, many of whom now enter college without fit preparation. We want," the doctor says, "an institution with the commercial element eliminated, and supported by endowment."

TO PREVENT FRACTURE along the median line in vulcanite plates, Dr. Ottolengui bends a piece of platina and iridium wire so as to touch the pins of the blocks. "With a fine pointed flame and

fourteen-carat or eighteen-carat solder fasten the platina wire to the pins of the block, thus uniting the two blocks. Let the solder remain rough."

THE MALADIES OF THE LARYNX are very ticklish to handle, and nobody should be trusted to go behind the epiglottis who has not the *tactus eruditus*. "It is the practitioners," says Oliver Wendell Holmes, "who confine themselves to the care of single organs and their functions who can be trusted to treat the larynx in a scientific manner, when diseased."

THE POISONOUS EFFECTS of the human breath have been clearly demonstrated by late experiments by Prof. Brown-Séquard. From the condensed watery vapor of the expired air he obtained a poisonous liquid, which, when injected under the skin of rabbits, produced almost immediate death. The professor says this poison is an alkaloid, and not a microbe.

DURING THE LATE INVESTIGATION of the Michigan Asylum management, Dr. Edwards, while denying unnecessary cruelty to patients under his charge, admitted that he pulled the teeth of refractory patients to prevent them biting his attendants! If these "biting" patients had been guilty of striking the doctor's assistants he, doubtless, would have amputated their arms.

"IN DEEP-SEATED CAVITIES, where under-cuts exist," says Dr. G. F. Cheney, "if the enamel is strong, it need not be cut away if oxyphosphate is well packed as a support. It is equivalent to dentine. A cavity can be cut," the doctor believes, "in the cement to a depth a little greater than the enamel, thus reducing the operation and filling with gold to a very simple operation."

"ARISTOL DISSOLVED IN CHLOROFORM," says W. H. Witslar, D.D.S., "about sixty grains to one-half ounce, makes a dressing that is alike useful in pumping into root canals of teeth, or covering an excoriation of the skin; in each it forms an impervious coating almost like varnish, and moisture will not ooze through it; hence its value in root filling—the apical foramen of the tooth being sealed, as also are the tubuli."

DR. C. N. PEIRCE, in the *Ohio Journal of Dental Science*, gives the following formula for pyorrhea alveolaris and other local inflammatory conditions: "Equal parts of oil of cinnamon, oil of cloves, carbolic acid and iodine. In this combination," he says, "iodoform will readily dissolve, so of this last material I add quantity sufficient to make a mass of thick, creamy consistency, which is very smooth, and easily applied to pockets, cavities and canals where a disinfectant is indicated."

"GEORGE MAULDEN, who lives in Reynoldstown," says the *Atlanta Constitution*, "has been afflicted for seventeen years with a terrible cough, and what was believed to be catarrh. While bathing his face recently, he blew out of his left nostril a piece of knife-blade about an inch long. It looked like a piece of bone. When the outer covering was removed, it proved to be a piece of a steel knife-blade. When but a boy of ten years a negro boy stabbed him in the left cheek, in a boyish scrimmage. He did not know that a portion of the blade was left in his cheek.

THOSE WHO OPPOSE experimentation on living animals should consider that "One of the most important steps in the advancement of physiological inquiry," according to Dr. Stephen S. Burt, "the discovery of the inhibitory function of the pneumogastric nerve by Weber, was the result of an experiment on a living animal, and it could have been demonstrated in no other manner. Moreover," the writer continues, "this same method, in the hands of Pasteur, has bestowed sufficient benefit on the animals themselves to more than compensate for the suffering inflicted on them in the interest of science."

"RHEUMATISM," said a popular physician of New York city, "is caused by acidity of the blood, and should never be neglected. A remedy," he says, "that will prove an incalculable boon to people suffering from this ailment is the oil of gaulteria (oil of winter-green). Get twenty-five cents' worth and put ten drops on a lump of sugar, place it in the mouth, allow it slowly to dissolve and swallow it. In the meantime take a dose or two of Rochelle salts. That," said the physician, "is all there is to it; but if taken as I have prescribed, it will save suffering humanity many dollars in doctor's bills, to say nothing of pains, aches, and swellings."

"THE CHEMICO-PARASITICAL theory of dental caries," says Professor Miller, of Berlin, "has every appearance of being built on a solid foundation, and the various storms thus far encountered have produced not even a vibration in its frame." The Professor, in a communication to the *Cosmos*, mentions a case of decay in a replanted tooth: "The tooth in question," he says, "was extracted by mistake about the first of October, 1888. After it had been out of the mouth for a fortnight the point of the root was removed, the canal filled with oxychloride, and the tooth forced into place. Two years later there was a chronic fistula at the point of the root."

"LOOK IN THE MIRROR and see if you might not improve your appearance," says the editor of this journal in the April issue. We have done so, Brother Welch, and believing the thing possible,

as well as necessary, bought a new suit of well-fitting clothes, cut off a few straggling hairs we were coaxing into symmetrical shape for side-whiskers, gave a miraculous curl to our upper lip appendage, and embellished generally. The effort and outlay in cash, however, were useless. The thing can't be done, and that's the long and short of it. We never did take a fancy to mirrors, anyway, because of a lack of orthodox faith in their faithfulness of reflection.

THE EDITOR of the *Dental Register* condemns the practice adopted by some editors of dental journals of "soliciting practitioners, scientific workers, teachers and others to give methods of treatment or opinions on subjects that are already exhaustively treated in text-books or professional literature." It is because new and improved methods of treatment are continually coming to the front, many of which were unheard of when even the latest of our text-books were written, that renders the practice repudiated by the able chief of the *Dental Register* expedient and proper. Our dental journals are all the text-books required now by the intelligent practitioner of modern dentistry.

WHAT WAS THE MATTER?—Dr. G. S. Junkerman gives us the following cases:

Case 1. Mrs. K. presented herself to me, with pain in the left superior maxillary. She had been for two successive years before to her own dentist, who resides in another city. She associated the pain with the first and second molars, though neither of the teeth were painful to the touch. Her dentist had twice before filed apart the two teeth, and instant relief followed. I performed the same operation for her, with the result of instant relief. The patient says that pain follows as soon as the teeth touch each other. There are no fillings in the proximal surfaces of the molars.

Case 2. Mr. S. presented himself to have the first inferior left molar filled. The crown cavity was shallow, but broad. No pain had ever been experienced. The cavity was prepared and wiped out with a solution of corrosive sublimate, and filled with gold. Death of the pulp immediately followed, with the usual symptoms.

DENTAL SURGERY, by Henry Sewill, England. This is one of the best books we have read. The text is simple and clear, and the illustrations are admirable. It is not pretentious in size, but every one of its 400 pages is worth close study. A quotation will be found on another page. P. Blakiston, Sons & Co., Philadelphia. We should be pleased to quote the price, but it is not given.

For Our Patients.

THE BACILLUS.

A merry little bacillus, she frolicked in the sun,
 She said, "I am so useless! There's nothing I have done.
 I wish I could do something for others ere I die,
 There are lots of folks unselfish—then why not I?"

This merry little bacillus decided now to die,
 To give her life for science, and not to reason why;
 So in a vat of glycerine she plunged—this merry nymph,
 And in the twinkling of an eye was changed to healing lymph.

This merry little bacillus was the leader of the band
 Who're dying now for science in the happy Fatherland;
 They all are most unselfish, and quite rejoiced to die—
 These very merry, jelly-jolly bacilli!

—*Boston Transcript.*

THE VIRUS CURE.

First they pricked him with a virus from some mediocre cow,
 Lest the small-pox might assail him and leave pitmarks on his brow;
 Then one day a bulldog bit him—he was gunning down at Quogue—
 And they filled his veins in Paris with an extract of mad dog;
 Then he caught tuberculosis, so they took him to Berlin,
 And injected half a gallon of bacillæ into him;
 Well, his friends were all delighted with the quickness of the cure,
 Till he caught the typhoid fever, and speedy death was sure.
 Then the doctors with some sewage did inoculate a hen,
 And injected half its gastric juice into his abdomen;
 But as soon as he recovered, as of course he had to do,
 There came along a rattlesnake and bit his thumb in two;
 Once again his veins were opened to receive about a gill
 Of serpentine solution with the venom in it still;
 To prepare him for a voyage in an Asiatic sea,
 New blood was pumped into him from a lep'rous old Chinese;
 Soon his appetite had vanished and he could not eat at all,
 So the virus of dyspepsia was injected in the fall;
 But his blood was so diluted with the remedies he'd taken,
 That one day he laid him down and died and never did awaken;
 With the Brown-Séquard elixir, though, they tried resuscitation,
 He never showed a symptom of reviving animation;
 Yet his doctor still could save him (he persistently maintains)
 If he only could inject a little life into his veins.

HUMAN NATURE UNVEILED.

Human nature drops all disguises when it sits in a dentist's chair. A well-known New York dentist has pulled more teeth than any other man alive or dead. His knowledge of human nature ought to be more complete than that of Diogenes or Shakespeare. He doesn't claim any such distinction, but he has been a close student of the weaker side of his fellow-men, and it is interesting to note that as the result of his observations he is neither a cynic nor a pessimist. More than 150,000 persons have lain unconscious in his chair under the influence of anesthesia. When the writer asked him, the other day, for some of the results of his observations, he made two striking remarks. The first was:

"Give me a regiment of women and I'll whip a regiment of men." And the second was:

"No man can stand by that chair and watch, day after day, the effects of anesthesia on human minds and bodies without learning there is a God."

There is a wonderful significance in both the veteran dentist's remarks. For more than twenty-five years he has stood by the chair of which every man, woman and child in Christendom is in dread. His work has been exclusively surgical. No mechanical dentistry is done in the office. Rarely is his big chair unoccupied for as long an interval as fifteen minutes during office hours. The panorama of unveiled human nature to be seen in his operating room is, therefore, ever changing and ever new. Every possible shade or degree of courage and cowardice can be seen there. Likewise, in the unconscious moments of those who slumber in the great chair, are shown glimpses of every variety of human passion and predilection.

The doctor was asked to explain the rather contemptuous reflection on masculine courage in his first remark, and he emphasized his declaration that physical cowardice is far more common in men than in women. "Yes," he affirmed, "man is distinctly inferior to woman in both physical and moral courage. Not a day passes that I do not see it demonstrated. A woman, when she finds she must face pain, endures it silently and without flinching. A man under the same circumstances groans and shrinks and cringes. Of course, I am speaking of the average woman and the average man. Few men will confess cowardice, while most women do not profess the courage they really possess. Perhaps a woman dreads the dentist's chair more in anticipation than a man does, and certainly everybody exaggerates the evil before they face it.

"As a fact, the proper administration of pure nitrous oxide gas is absolutely without danger. We give it to all patients without hesitation, whatever their physical condition. More than 171,000 persons have slept under its influence in this room, and we never had an accident in connection with its use. Patients suffering with valvular diseases of the heart, who would probably die under chloroform or ether, have taken it without any ill effects. But to go back to the superior courage of woman—wait, see for yourself," as there came timidly forward from the reception room a young woman.

She was alone; a delicate, fair-haired slip of a girl, who would be expected to fly from her own shadow on a moonlight night. She was pale, and her big brown eyes were opened wide with dread foreboding, but there was an unmistakable light of determination in them, too. Yes, she was plainly frightened, but there was not a sign of flinching. She had good reason for her apprehension, as appeared when she sat down in the big chair and rather tremblingly told her errand. She had been sent by her regular dentist. He had made an attempt to extract a bad tooth, and had succeeded only in breaking off the crown. The doctor spoke to her encouragingly.

"Oh, yes," he said, as he looked at the painful spot, "we can get that out of the way without troubling you a bit. You've taken the gas, haven't you?"

"No, sir."

"Oh, well; it's perfectly easy and pleasant to take," and the doctor swung the tube around toward the chair, and a pleasant-faced woman assistant showed her how to inhale the gas.

"Just take the mouth-piece between the lips, and breathe in and out through it in full, long breaths."

She looked about rather apprehensively for a moment. The doctor was standing carelessly by the chair. The dreaded forceps were not in his hand, or anywhere to be seen. Evidently that part had not come yet, and the breathing in the tube was easy and apparently without effect. The young woman did as she was told quite readily. It was difficult to realize that she was not breathing ordinary air. The gas had no taste or odor, and after an inhalation or two the expression of fear in the girl's eyes changed to one of curiosity. But with half a dozen inspirations the eyes began to lose all expression. The look of intelligence faded into one of immobility. The breathing rapidly became stertorous, and the muscles of the arms and hands relaxed. In less than half a minute unconsciousness was complete. Two or three more inhalations

were permitted, to deepen the insensibility, before the tube was removed. Then no time was lost. Quickly taking a pair of forceps from a cabinet at his elbow, the doctor stepped on a little raised platform at the back of the chair, which enabled him to work at better advantage. The broken tooth was a molar on the right side of the lower jaw. The narrow, thin blades of the forceps were deftly crowded down between the root and the gum, far enough to give a tight grip, and then, with two or three rapid twists, out came what was left of the tooth. The patient had not moved or struggled, neither had her face shown a sign of pain. But a moment after the tooth came out the girl screamed. It was not a cry of pain, for she was still deeply insensible. Queer emotions lit up her face, and the expression changed rapidly. But the effects of the anesthetic were rapidly passing away, and with returning consciousness the manifestations of an abnormal individuality quickly disappeared. The face took on again the expression which it wore when unconsciousness supervened. The look of curiosity became one of doubt, still mixed with apprehension. The attendant's assurance, "The tooth is out," was received with incredulity by the returning senses; but when the glass of water was handed her the look of relief that came with full realization that the dreaded evil was over was proof of how great had been the strain under which she had nerved herself to face it.

"Almost all patients dream when under the influence of the gas," observed the doctor, when the young woman had withdrawn, relieved and light hearted. "They have all manner of delusions; some of them pleasant, some of them not. A big policeman came in here one day, took the gas, had his tooth out, and a moment later, just as he began coming out of the influence, he jumped from the chair, and, before we could prevent it, pulled out his revolver. We seized him, but he was more than a match for us, and I don't know what would have happened had he not promptly regained his senses and realized where he was. He dreamed that he was having a fight with a desperate thief. When policemen come in now we ask them to lay aside their weapons before they sit in the big chair. A man who came in this morning dreamed that he was at work in his counting-room. He made out carefully several bills of lading, and then he was startled by the fall of a great pile of packing-boxes, which a clerk had pushed over with a great crash. Then he woke up. Another man dreamed that he was coasting down a very high hill on a sled. At the bottom was an iron crow-bar imbedded diagonally in the earth, with the point toward him. He was dashing toward it at terrific speed, and with all his efforts

he was unable to steer the sled to one side. He dashed against the bar, and the point struck him in the jaw just where his aching tooth was. Probably the tooth came out about the time he struck the bar."

A young man with an ulcerated tooth, that he had no further use for, came in while the doctor was talking, and sat down in the chair. It didn't take long to dispose of his case. He had taken gas before, and knew just what to do; but it took about three times as much gas to render him unconscious as it had the young woman. He breathed into the black tube till he had filled his lungs twenty-five or thirty times before he reached that degree of oblivion which no pain could disturb. Then his tooth came out in a jiffy. The effect which it had taken longer to produce was a long time in passing away. There would have been ample opportunity to take out half the teeth in his head without his knowledge, had it been necessary. He made no demonstration, and came back to reason as calmly as though his sleep had been natural.

He had no sooner left the chair than a lady of middle age, with a friend, entered. She had come for a more serious operation, and it was plain that she dreaded it, though she took her place quietly and did not shrink from the dentist's examination. Ten teeth, several of them broken and badly degenerated, were to come out. The doctor promised her that she should have no pain, but evidently she did not fully believe him. She followed his directions obediently, however, and was soon breathing steadily through the black tube. She was allowed to take the gas beyond the point of first unconsciousness, and she reached a deep insensibility before the dentist began his work. When the tube was withdrawn, the rapidity with which the teeth came out was marvelous. It was difficult to follow the motions of the operator's arm and instrument. Some of the teeth were out almost at the same instant that the forceps grasped them. Several were pulled with the same instrument. Then, quick as a flash, that was discarded and another, which an assistant handed to him, was used on the remainder. The patient made no sound, and before those looking on could realize that the operation was over the doctor stepped down from his little platform and his assistant was gathering up the offending teeth from wherever they had happened to fall on the floor. The patient was soon herself again. She could not realize that the teeth were gone. She had the same impression which almost all have, that the operation had not begun, that they had not finished taking the gas. Her joy was unlimited when she realized that the dreaded experience was passed.

"What people make the most fuss?" the doctor was asked, when this patient had been sent on her way rejoicing.

"The Irish, always," was the emphatic and surprising response. "They often begin to yell the moment you look in their mouths. Ask them what they are screaming for, and they usually say, 'I thought you were going to begin to pull.' Negroes come next. They often make a lot of fuss. Yes, we have to resort to all sorts of expedients in dealing with the timid. Some you must coax. Others you must sympathize with or you are a brute. Still others you can bring to the point of submission only by touching their pride. Many a man and woman I have talked with till my patience were gone, and finally have said to them, 'Well, you might as well get out of the chair; you haven't courage enough to have the tooth out, and I haven't any more time to give you.' That usually fetches them. They lean back with bulldog courage after you have intimated that they are cowards, and let you go ahead without any more fuss."

A man came in who confessed at once that he was a physical coward, and wanted to know if the dentist would guarantee to take his tooth out without pain.

"I am not afraid of the gas," he said, "but I am afraid of pain. Now, I want you to be sure to give me enough gas."

The dentist assured him that he would do so, but the man was hardly satisfied.

"See here," said he, suddenly, looking out of the window, "I want you to promise me not to touch the tooth as long as I can see that big sign over there."

The dentist readily promised, and the man leaned back in the chair with one arm upraised and pointing at the sign. He took the gas steadily, and for several breaths he held his hand steadily pointed at the sign. Then the fingers began to droop, and gradually the arm sank to the arm of the chair. A moment later he was asleep and the tooth was out. Then he began to regain consciousness. The instant he was himself, his arm pointing at the sign, he exclaimed:

"Hold on, not yet! I can see the sign."

As soon as he had recovered from his surprise at finding the tooth was gone, he gave place to a little girl about eight years old, who came bravely in with her father. She made no fuss, but readily did as she was told when the dentist asked her to breathe into the tube. "Just breathe hard," he said to her, "and the tooth will blow right out into the tube." A very few inhalations put her soundly to sleep. Her tooth came out with more difficulty than any of the others which have been referred to, and it took longer.

"Children almost always cry as they come out from the influ-

ence of the gas," said the dentist. It was no exception in this case. The little girl began to cry as soon as the tooth was out, but she stopped as soon as she was fully awake, and she was led out smiling.

"We had a troublesome case here yesterday," remarked the doctor. "A very nervous woman with three or four bad teeth came in the previous day, but she could not get up courage to have them out. She came back yesterday, and we had the utmost difficulty in convincing her that the operation under gas would be entirely painless. Finally I took out my gold repeater and showed it to her. It's really a wonderful watch, and I explained that it showed on its dial not only the hours, minutes, and seconds, but the day of the week, the day of the month, and the year, besides the phases of the moon. I showed her that on touching a spring it struck the hour and minute exactly. I told her that the watch could not be duplicated at Tiffany's for \$1,000. Finally I made her the offer that if after the operation she could truthfully say she had felt any pain I would give her the watch. That finally won her confidence, and she got into the chair and took the gas. When she came to herself the first thing she said was: 'You're not going to pull them yet, are you?' I laughed, and told her she had lost the watch."

"How many teeth can you take out under one administration of gas?" was asked.

"I once extracted the whole double set of thirty-two teeth," said the dentist, "but that was a very unusual operation. We think we are doing very well indeed, if we take out fifteen or twenty before a patient begins to regain consciousness. It is strange that we can produce insensibility of longer duration with the nitrous oxide which we make ourselves here, than can be gained with the compressed gas which is usually sold to dentists, which is allowed to escape from a tank into a rubber bag before being used. I don't know why the simple compression of the gas should make any difference in its efficacy, but it seems to. Compressed gas does very well for the extraction of four or five teeth, but it does not produce an effect lasting enough for the painless removal of more than that. We tried it here on one occasion when the man who makes the gas for us was sick, and we detected the difference.

"Yes, anesthesia is a wonderful thing. As I told you in the first place, no one can watch its operation in thousands of cases as I have and not have forced on him the conviction that there is a God. The apparent flight from the body of the soul, leaving the physical being still alive—yes, and the mental being also active—and then the gradual return of that intangible spiritual being to its habitation is a spectacle full of awe, however familiar it is."

The wonderful agent that accomplishes the rapid transformation from reason to insensibility is worth studying. Nitrous oxide gas contains nothing but the elements of the common air. The only difference is that those elements are mixed in another proportion. The air contains four parts nitrogen and one part oxygen; nitrous oxide is half oxygen and half nitrogen. The operation of the latter on the human system is very different from that of ether or chloroform. The gas stimulates the circulation and nerves till the latter lose sensibility. Ether and chloroform depress the vitality. Few people realize that the whole history of anesthesia dates back less than half a century. Ten years ago there was a great controversy in the medical journals over the question as to whom the honor of the discovery was due. It was only three years ago that the story of the discovery was told, which is now accepted as true by the leading physicians of New York. The use of nitrous oxid gas as an anesthetic antedates that of ether and chloroform. The gas was used for public entertainment in New York as long ago as 1842, by Dr. G. Q. Colton, but its later use was not then discovered. Dr. Colton went about the country giving exhibitions of the effect of "laughing gas" as it was called. He thus describes the first operation with it as an anesthetic:

"On the evening of the 10th of December, 1844, I gave an exhibition of the effects of laughing gas in the city of Hartford, Conn. Among those who inhaled it was a young man by the name of Cooley, who, while under its influence, in jumping about ran against some wooden benches on the stage, bruising his legs badly. After taking his seat, he was astonished to find his legs bloody, and said he did not know he had run against a bench, and felt no pain till after the effects of the gas had passed off. Dr. Wells, who sat next to him, noticed the circumstances, and as the audience were retiring, asked me why a man could not have a tooth extracted without pain while under the influence of the gas. I replied that I did not know, as the idea had never occurred to me. Dr. Wells then said he believed it could be done, and would try it on himself if I would bring a bag of gas to his dental office the next day. The next morning—11th of December, 1844—I took a bag of gas to his office—Dr. Riggs having been called in—and administered it to Wells, and Dr. Riggs extracted a molar tooth for him. Dr. Wells, on recovering, exclaimed: 'It is the greatest discovery ever made! I didn't feel it so much as the prick of a pin!' This was the first operation performed in modern anesthesia, and was the forerunner of all the other anesthetics. Beyond all questions this discovery had its birth in the brain of Dr. Horace Wells."

—N. Y. Sun.

Current Notes and Items.

Drumine is proposed to take the place of cocaine as a local anesthetic. It is said to have only a sensory paralyzing effect.

Dr. J. E. Cravens has returned from Paris, and has again opened an office in Indianapolis. The new dental law of France prevented his practice there.

Three hundred and fifty thousand dollars' worth of gold goes out of circulation by being put into the mouths of people by the dentists every year.

Miss Emma Gove has secured a verdict of \$1,200 against dentists C. H. Stewart and Samuel P. Sharp, in the Supreme Court in New York, because of negligence in allowing a tooth extracted to drop into her lungs, causing her great pain.

There is a general dropping of *h* from the spelling of Behring Sea, in accordance with the recommendation of the National Orthographic Board, and it is a pity the whole dispute to which the sea has given a name can't be dropped with it.

It is reported of a Boston dentist that he attended a sale of unclaimed express packages. A man opened a bundle that he paid fifty cents for, and was disgusted to find that it was filled with loose false teeth. He sold them to the dentist who, within forty-eight hours, resold the masticators for eighty dollars.

Bulwer says: "When a lie once gets into the world, it is astonishing how hard it is to get it out. You may beat it about the head till it seems to have given up the ghost, and then, the next day, meet it on the street as healthy as ever." Nevertheless, lies of all sorts should be clubbed at every opportunity. Else how shall truth prevail?

Dr. John G. Harper thinks E guitar strings make the best broaches for working in the tooth canal. Dr. J. H. Prothero finds

No. 13 piano wire best. He says they are strong and flexible. "You can make just the kind the case demands—hooked, barbed or plain. The hooks made on this kind will hardly break whatever pressure you may need to place on them."

Webster says, "This substitution of t for ed, so as to read fixt, mixt, exprest, publisht, etc., is not peculiar to Hare, for it accords with the usage of all early writers, and of many, both poet and prose writers, in later times. It is proper to mention here also the innovations of Archdeacon Hare who, on the ground of pronunciation, etymology and analogy, employed in his works such spelling as firy, forein, envey, hight," etc.

The Calumet and Hecla Mining Company is one of the greatest, if not the greatest, copper-producing company of the world. The dividends to stockholders, notwithstanding vast outlays for work, explorations and improvements, and unparalleled loss by fire, has been already \$34,500,000. It is computed, with considerable accuracy, that there may be an output in the future, for forty years, of double the amount of copper that has ever yet been produced per year, without exhausting it.

As illustrative of the sustaining capacity of the United States, the *Bulletin* says, that if Texas, the largest State in the Union, was as thickly populated as Rhode Island, the smallest State, it would have 83,523,628 inhabitants; while if the United States had a density of population equal to that of Rhode Island, the population of the Union, instead of being 62,622,250, would reach the enormous sum of 945,766,300, or nearly two-thirds of the present population of the world. In every way, the growth of the United States is marvelous. Even its great war has made it greater in moral position and in every element of power and progress.

THE DOCTOR WHO SUCCEEDS.—A physician who understands human nature, who plays with the baby, makes friends with the children, and listens to the woes of the good wife and mother, says a medical journal, is the fellow to whom the master of the house most cheerfully pays the largest bills. It isn't the medicine that's bottled up, but it's the comfort and consolation that are unbottled that mark the broad line between an unsuccessful and popular physician.

"Talk about physicians' bills being hard to collect," said a disconsolate dentist, "they are nothing to dental bills. Some people seem to think us their legitimate prey. Now, the other day a woman came to me to have her teeth filled. I put enough gold in them to make a wedding ring, and when I got through she told me she had no money with her, but would return in an hour or so and pay me. Well, I have never seen her since. For another woman, I filled several teeth. There was still several more to fix, but she said she could stand no more work being done that day, and would come in the morning to have me finish the job. She, also, has failed to appear; and so it goes on, one after another."

Dr. A. R. Eaton, of Elizabeth, the retiring president of the Central Dental Association of Northern New Jersey, in his address delivered at the annual meeting which followed the eleventh anniversary dinner of the society, at the parlors of S. & J. Davis, strongly recommended the establishment of a dental dispensary. There are many things to be done, he said, but with the same zeal as has characterized our past, we may hope to accomplish much. Let us establish a dental dispensary. Let it not be said we lack the generosity of our medical brethren. Surely, if they can give of their time for the benefit of the suffering poor, we can do the same, and gladly. In our case, material, as well as time, must be given, but can be easily arranged. I believe our hospitals will be glad to furnish us with sufficient room for our work, and we can, by subscription, obtain the necessary funds for the purchase of materials.

Few people know what a "soft snap" the official stenographers of the House of Representatives, at Washington, have. They are known to receive \$5,000.00 a year each (the chief, \$6,000.00); but while that sounds handsome, it is only half of a good story, and the tamest half, at that. The law provides that the chief reporter shall receive \$12,000.00 (and each assistant \$10,000.00) for every two years, which, it is further provided, shall consist of twelve months of work and *twelve months of vacation*. Thus, after each long session of Congress the reporters have a two months' vacation, and after each short session they have *ten months' vacation*, with nothing to do and pay going right along; or, in other words, they work only twelve months out of every twenty-four, and draw two years' pay. Besides that, each reporter is allowed by law \$1,000.00 as a special fund, with which he is supposed to employ an amanuensis, yearly, to get out his transcripts.

Meetings.

South Carolina Dental Association meets July 14th. It gives promise of being an enterprising gathering.

The next meeting of the Minnesota Dental Association will be held July 8th, 9th, and 10th, in St. Paul.

The Board of Dental Examiners of the State of South Dakota will hold its next regular meeting at Aberdeen, South Dakota, commencing Tuesday, June 2d, 1891, at 2 o'clock P.M., at which time candidates may present themselves for examination.

The eighth annual meeting of the South Dakota Dental Society will meet at Aberdeen, June 9th, continuing three days. We hope to make this the most profitable meeting ever held by this society.

O. M. Huestis, Secretary.

The Connecticut Valley Dental Association meets at Holyoke, Mass., June 10-12. We understand Dr. Land, of Detroit, is to be there to exhibit his furnace and work. This will be a special privilege all New England dentists should take advantage of.

The fifteenth annual meeting of the New Hampshire Dental Society will be held at Concord, June 15th, 16th, 17th, 1891. All members of the profession are earnestly invited to be present. Efforts are being made that will result in the best meeting ever held by the society.

Edward B. Davis, D.D.S., Secretary.

The Pennsylvania State Dental Examining Board will hold its annual meeting July 14th and 15th, in Justi's Hall, Thirteenth and Arch streets, Philadelphia, Pa. Candidates for examination are requested to be present, and to promptly call on the President or Secretary on the first day. Before that time communications may be addressed to the Secretary, I. C. Green, West Chester, Pa.

ALUMNI ASSOCIATION OF THE PHILADELPHIA DENTAL COLLEGE.—At a meeting held April 9th, 1891, all the graduates of the Philadelphia Dental College during the years '86, '87, '88, '89, '90, and '91, were elected members. Those desiring to accept such membership will please send to J. R. C. Ward, D.D.S., Treasurer, 1905 Fairmount avenue, Philadelphia, their name and address, and \$1.00 entrance fee.

Alonzo Boice, President. L. Ashley Faught, Secretary.

The annual meeting of the Southern Minnesota Dental Society just closed was well attended, and its proceedings were of great interest.

The following officers were elected for the ensuing year: President, Dr. C. D. Snow, Mankato; Vice-President, Dr. L. P. Leonard, Waseca; Secretary, Dr. W. D. James, Tracy; Treasurer, Dr. S. Bond, Awoka.

Next meeting will be held at Mankato, beginning on the second Tuesday in April, 1892, and continue three days.

"After cigars had been lighted, President Holbrook addressed the assemblage." Thus reads the report of a recent meeting of the Central Dental Association. The smoke of sixty-four cigars puffed into the face of the honorable speaker must have been an inspiration. But, you know, we must ape our English brethren; and brother Barritt has told us this is the way they do it there. Probably the next step in this process of imitation will come the wine. The report from one of our Western associations is that "they discussed their opinions over a bowl of punch."

The meeting of the Fourth District Dental Society, of the State of New York, was enthusiastic, and the largest the society has ever held. There was a large increase in active workers, with eight additional members. The society has evidently taken a new lease of life. The following officers were elected for the ensuing year: President, O. J. Gross, of Schenectady; Vice-President, W. E. Lansing, of Gloversville; Secretary, A. C. Rich, of Saratoga Springs; and J. H. Collins, of Granville, Treasurer. Very hearty resolutions of respect and sympathy were passed on the death of Dr. Wm. H. Atkinson.

During the year just closed, in the Chicago College of Dental Surgery, more than 25,000 persons visited the infirmary. Of this number, 4,771 had gold fillings inserted; 4,070 fillings of other materials were made; artificial teeth were supplied on rubber to 431 persons; on gold and other metals, 119; gold crowns and bridges, 252; regulating of teeth, 151 cases; nitrous-oxide gas was administered to 460 persons. The professor of oral surgery treated 73 surgical cases for various diseases. The students, besides assisting in this work, have listened to 484 lectures, of one hour each, besides many hours spent in the various laboratories of the college during the past six months.

Editorial.

DR. AMBLER TEES.

Dr. Ambler Tees, of Philadelphia, whose portrait we give on our first page, is dead. So sudden was death that only the day previous he was doing his accustomed work at his dental chair. How little we know of even the immediate future. He maintained for many years an excellent practice in a fashionable part of the city.

His quiet, genial ways with his patients made him a favorite always. No patient doubted his sympathy when in pain; and his delicate touch and skilful manipulation gave them assurance of thoroughness, with the least possible discomfort. Everything about his rooms tended to give them comfort and set them at ease; they were simply furnished parlors; but the features of his labors, for which he became specially distinguished, were as reporter of the Philadelphia Odontological Society, and in bringing continuous gum work to a high state of artistic art. He was, probably, the best reporter of a dental meeting we ever had,—so wise in knowing what not to say, and so clear and concise in stating what would be of interest to the general profession.

He learned to make continuous gum work of the inventor, Dr. John Allen, of New York, with whom he worked for some time. He not only improved the work, but the furnace and implements for producing it, and became noted for the excellent results. Our finest alveolar forcep was also of his invention.

He died April 11th, aged 55, leaving a wife and three children. The two boys are following in his profession.

The reflection of the father's pure, affectionate and intelligent character is seen in his children. Though he has gone, his home influence still broods over them. We have never met the mother but once; but that was enough to convince us that the children find in her one to lean on for comfort and consolation, and one able to guide them as only a true mother can.

LIFE INSURANCE.

Perhaps there is no way a man shows his forethought more prominently, than in providing for the contingencies of his demise. We are too apt to act as though all men were mortal but ourselves; or, if we mentally admit the time will come when we shall be called hence, we try to smother the thought in the cares and labors, the pleasures and speculations of this life, as though we had finally concluded that, at any rate, we had a long time before there was necessity for preparation for such an event.

But, suppose we have the prospects of long life, and a life insurance would cost us as much as it would come to, there is great satisfaction in knowing we have provided for the possibilities of contingencies. We were insured on our property for twenty years before we received any loss by fire; but we were continually benefited by that peace of mind that comes from security against possible chances. A rap came on our door one Sunday morning.

"Holloa, what's wanting?"

"Do you know your office is burned?"

"No."

"It's all gone; we were not able to save anything; the whole block is in ashes."

"Why, that's dreadful!" said my wife, "dreadful! dreadful!"

"Oh no," we replied; "it is insured; let's go down and see the ruins."

Do you not believe this state of mind was a satisfaction that well repaid us for all we had given fire insurance companies?

A gentleman, a little indisposed, came into our office when we lived in Winona, Minn., where this fire occurred, saying:

"I have laid off on that work, front of your house, for to-day; I am not feeling first rate."

"That's right," we replied; "now take this time and get your life insured; you owe it to your wife and three little children. Come back when you find what a two-thousand policy will cost, and I will lend you the money."

It was done, and it proved very timely, for in less than a month he was dead.

Mr. Green, living on the opposite side of the Mississippi, left home for a three weeks' trip down the river. In two weeks his wife received the sad intelligence of his death. She had not a month's provision in the house, and not ten dollars in the world.

"Come to me," wrote her sister in Milwaukee, "I will do my best for you." She gave away two of her children to friends she could trust, and taking her young babe, went to Milwaukee as a seamstress. In eight months she received a letter directed to her husband, forwarded to her from her former home, informing him that the first payment on his life insurance was due. It was the first intimation to her that his life was insured. Proper proofs of death were soon forwarded, and she received five thousand dollars. Her nice little home she had given up to the man who had a seven hundred dollar mortgage on it was redeemed, her children taken back, and she was again domiciled in her dear, old home.

Life insurance, we know, costs considerable; and we may live long enough to pay the company more than our family will receive. But it is a great satisfaction to feel that we have provided for the worst. We have a two thousand policy on which we have paid annually, for thirty-five years, and another of three thousand, that has all been paid up for twenty years; no interest coming in, and yet we do not regret the expense. It has been a continual satisfaction to know our family would have been provided for had we been taken.

Then, too, there are some safe companies in which the annual expense is not large. We carry twenty thousand dollars in the American Temperance Life Insurance Association, 187 Broadway, New York, at the same annual cost that three thousand costs us, gotten a year previously, in another company.

Dr. Edward Maynard, of Washington, D.C., died May 3d. He was so distinguished a dentist, inventor and citizen, we hope to present in our next number an excellent portrait of him, and give some account of his life work.

Perhaps the profession has never lost so many eminent men in the same amount of time as during the last three months.

THE AFRICAN'S CARE OF THEIR TEETH.—Dr. Simms, of England, received from Africa some part of what is there used to clean the teeth. It consists of branches of a tree, with which they vigorously brush their teeth. In the Shire district of East Africa, Dr. G. G. Campion, of England, says he has learned that the natives have beautiful teeth, and take great pains in keeping them clean. Two years ago Dr. Collett exhibited in England some ornamental sticks for cleaning the teeth, which came from Africa. They were made from a fibrous root, and to improve them as a tooth-brush the natives hammered them on a stone. Dr. W. Headridge says the most perfect set of teeth he has ever seen were those of a patient from the interior of Africa.

Much the same may be said of the Western Indians. In Minnesota, while it was yet a Territory, we have had them come into our office to have teeth out, but aching, or even decayed teeth, were the exception.

"How did you get them out," we asked one day, "before we came?"

"Ouch, we got up in tree, tie string 'round him, and stone drop—him too."

A Wiscasset man, according to the Bath, Me., *Independent*, discovered a big gash in his boot where he had cut his foot while in the woods, and just managed to get home, feeling himself growing fainter from loss of blood all the way, and fainted on arriving, when somebody discovered that the gash only went through his boot and the red color was not blood, but only a woolen stocking.

This reminds us of an incident in our dental practice years ago.

Two young men entered our office, one of whom wanted a tooth extracted. Noticing that it would be but a simple operation, I jokingly said:

"A hard tooth that; I hope you are prepared to suffer. A woman wouldn't mind such an operation but we sometimes have to prepare you men for these surgical operations. But take the chair; I will do my best."

He had hardly seated himself before I noticed he was fainting, and turning round to ask the other young man, who was seated near by, to get me a glass of water, I found him fainting also. Both fainted clear away, before I had commenced to extract the root of a tooth, I could have pulled out with my fingers.

OUR DENTAL COLLEGES.

The following shows the standing of the Dental Colleges named :

	No. of last Session	Gradu- ates.	Matri- culates.
Philadelphia.....	28th	146	315
Pennsylvania.....	35th	94	251
New York.....	25th	86	282
Baltimore....	51st	76	224
Ohio.....	45th	75	210
American.....	5th	49	70
Kansas City.....	9th	43	107
Indiana.....	12th	40	96
Missouri.....	25th	26	90
German-American.....	2d	11	22
United States.....	1st	11	41
Western.....	1st	9	62
North Western.....	8th	6	30
Lake Forest University.....Dental Department.....	9th	98	323
University of Cincinnati.... " "	45th	75	210
University of Maryland.... " "	9th	64	163
University of Pennsylvania. " "	83	206
University of Iowa..... " "	9th	58	161
Vanderbilt University..... " "	12th	44	135
Southern Medical College.. " "	4th	38	105
Tenn. Medical College..... " "	2d	7	18
Central Tenn. Maharry.... " "	5th	5	1
Columbian University..... " "	4th	2	19
		1,246	3,150

The *Ohio Journal* complains that we have used an item from its pages without giving it credit. It is not wonderful that among the many items we extract from various journals there should be occasionally one not properly credited. We are sorry for these omissions, though we try to be very careful. All are liable to err; for instance, in this same *Ohio Journal* in which this complaint is made, are two articles quoted from pages 163 of the *ITEMS* without credit to the authors, and on the next page to the mention of our error is quoted an excellent tooth powder from the *Archives* that is ludicrously called a "Pate Dentifrice."

From away up in Seattle comes a notice of "a regular monthly meeting" of a dental association. How "the great Northwest" is booming up! We can hardly realize its growth without seeing it, and then our visits must be frequent, or our ideas will become ancient. Here are the leading spirits of the Seattle Dental Association: President, Dr. J. C. Grasse; First Vice-President, Dr. E. D. Andruss; Second Vice-President, Dr. H. F. Smith; Secretary, Dr. W. R. Henderson; Treasurer, Dr. A. J. Forrest; Executive Committee, Dr. Clarence A. Holmes, Dr. Thompson and Dr. Andruss; Membership Committee, Dr. Forrest, Dr. Thomas G. Albin and Dr. G. Willis Price. Dr. Carlson, of Olympia, was elected an honorary member of the society.

FIRE-PROOF BUILDINGS.—We hail with pleasure the many indications of advancement in this direction. Buildings with their internal trimmings, and even furniture ought to be emphatically fire-proof. It will save insurance and inconvenience, loss of property and sometimes loss of life. Ceilings and sides of rooms can now be made of metal that is cheap, ornamental, and in every way desirable. The casings of doors and windows, and the sash and doors are now constructed of metal, without greatly adding to the cost. The frame of the building and even the outside sheathing and the roof can all be made advantageously of metal.

We hear of another popular dentist that has "gone to the dogs" through drink. It is not long since he sneered at tetotalers for their weakness, and boasted of his self-possession as a moderate drinker. Voluntarily blindfolding himself, he could not see his danger, because he would not; till, stumbling over every obstacle placed in his way to warn him, he fell over the precipice.

How true it is that intemperance raises a false standard of dignity, character, and safety, deludes with false hopes, appetites, and pleasures, and causes its victim to laugh at his folly, deny his weakness, and ridicule his danger. How surely it drives reason from the head, affection from the heart, and money from the pocket; yes, and health from his body, friends from his society, and light and courage and enterprise from his life. He hurries on to gloom, darkness, and death, as though these were his choice.